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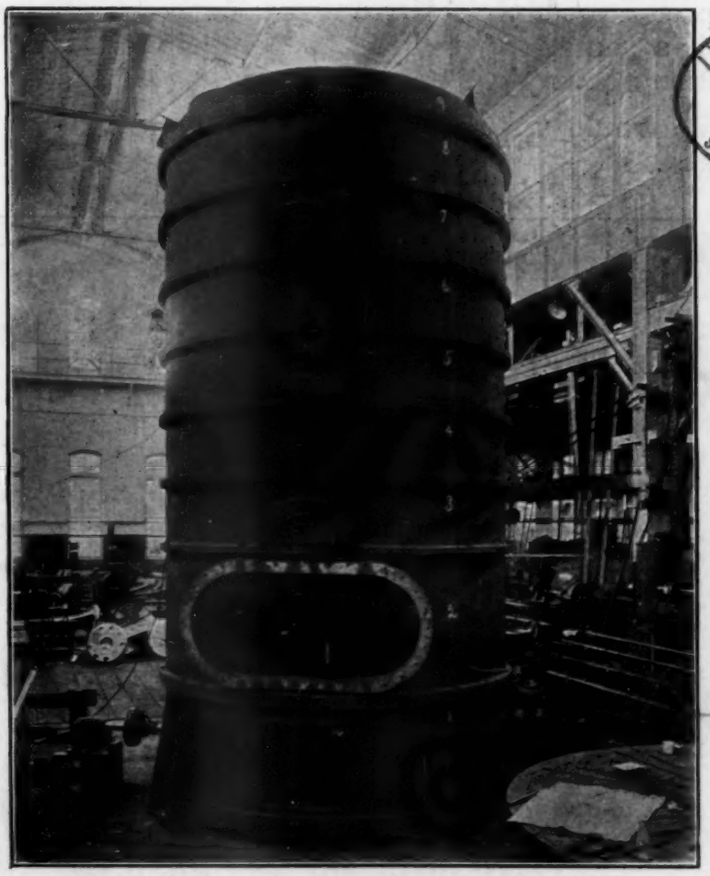

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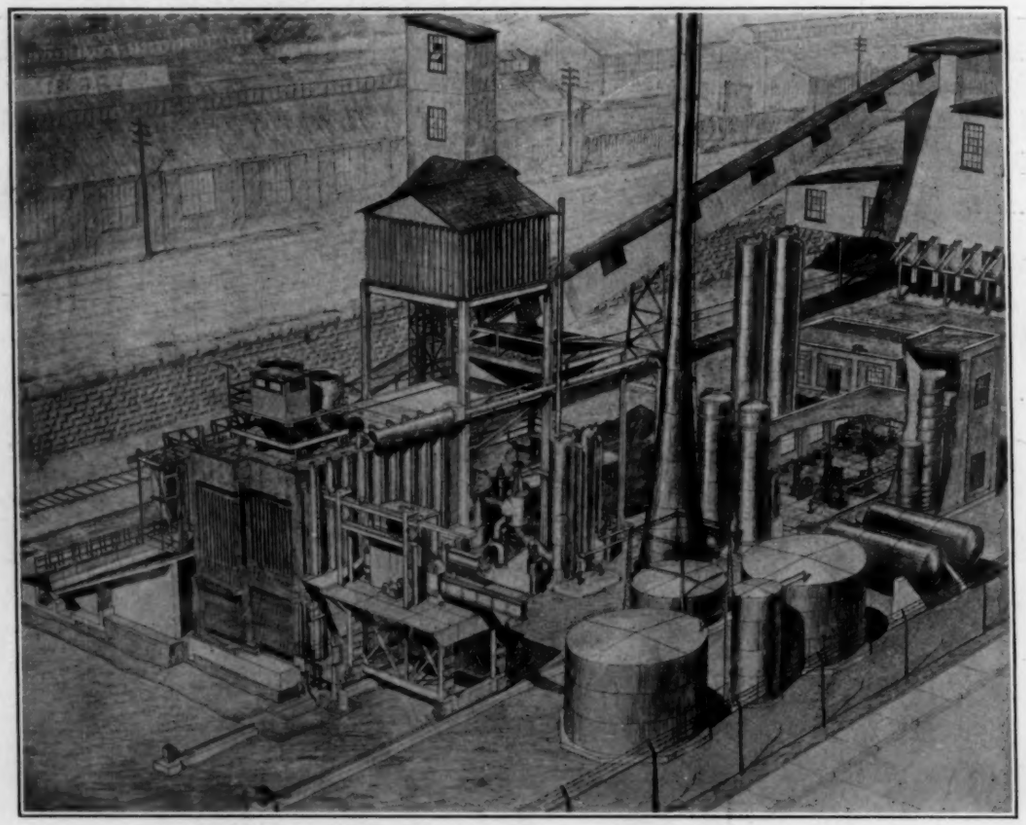

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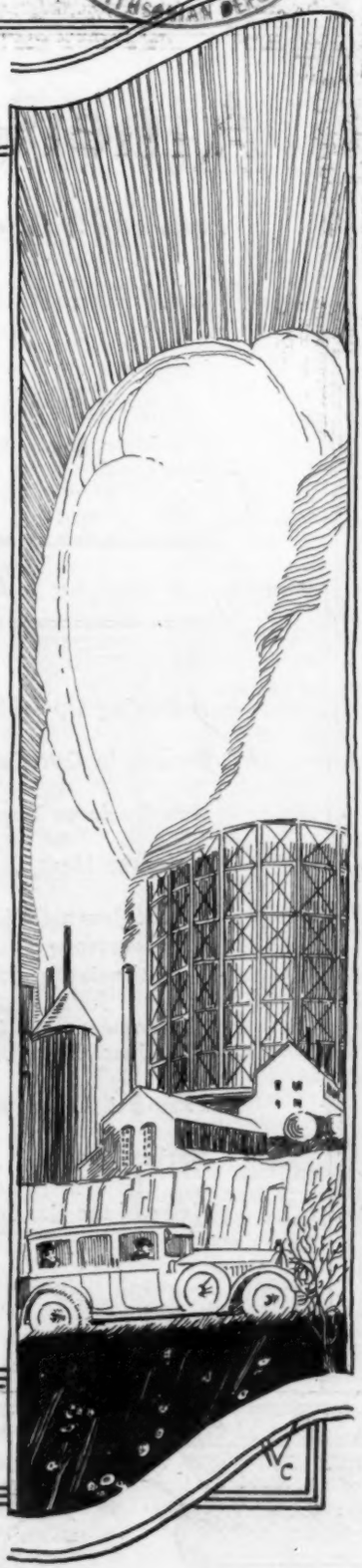

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Following Up Installations

C. G. Peterson, of Providence, R. I., Has Found That It Pays

By J. E. BULLARD

Some years ago a gas salesman sold an enamel oven to a small manufacturer. The oven was installed and the salesman made a cursory test to make sure it was satisfactory. It appeared to do all the work that would be required of it and straightway he forgot all about the installation. In a few weeks that manufacturer discontinued the use of this gas appliance. He not only did that, but refused to buy anything else from the gas company.

A few days' use of the appliance has demonstrated that it was not entirely satisfactory for all kinds of work for which such an oven was required in this shop. It did certain kinds of work with entire satisfaction. Other kinds it did not do as well. A few minor changes in the appliance would have made it satisfactory for all kinds of work done.

The salesman, however, did not show up to inspect the installation or to make inquiries. It appeared to this manufacturer that the company had deliberately sold him something he could not use. He talked with other men and found they had had unsatisfactory experiences with the company. The best way seemed to be to have nothing further to do with it, and to advise others to have nothing to do with it.

It would be hard to estimate just how much it cost that company to allow the salesman to make the installation and not follow it up. If he had followed it up, if he had made calls every week until he was certain the appliance would give entire satisfaction, that installation would just naturally have led to a great many others. As it was it prevented many others.

Instances similar to this could be multiplied. This, however, suffices to illustrate what may happen by not following up installations.

Much of the success of C. G. Peterson, of the Providence (R. I.) Gas Company, has been due to his habit of following up installations. The following case indicates how well it pays:

It is a lot easier to blame an absent one than it is to look for trouble. But Mr. Peterson has found that being on the job is worth the effort and has created friends for his company.—Editor.

In a manufacturing plant he installed a couple of melting pots. These were to be used for melting tin. Both were exactly the same size and of the same construction. Both were equipped with thermostats to control the gas supply. The pots were each about eighteen inches in diameter at the top and about twenty-four inches deep and were used for melting about 900 lb. of tin each. It looked like an ideal installation. There was an outlet at the bottom of the tops through which the tin could be drawn off through a valve. The gas consumed would be kept down to the minimum and the pots were just as convenient as they could be made.

The installation was made and tested It required an hour and a half to melt the tin. This tin, however, was required when the shop opened at seven in the morning. Therefore, it was decided to have the night watchman light the gas at 5.30 in the morning.

This was done the second day. The pots had been used during the first day and appeared to be entirely satisfactory. It certainly did not appear as though the salesman would need to give any more attention to them. However, Mr. Peterson had requested them to call upon him if anything went wrong.

The Follow Up

First thing next morning he went around to see how they were working. In one pot the tin was melted. It was just as hard as ever in the second. As the tin had hardened overnight it had contracted and left a hole in the center in this pot.

This hole extended to the bottom. It was enlarged by running a hot iron down through it. The tin at the bottom was melted.

In Providence, the B.t.u. value of the gas has been reduced. When anything goes wrong people are

pretty certain to jump to the conclusion that it is due to poor quality of gas. At 9.30 the tin in this pot had not melted. By 10.30 it was still hard.

The men around the plant were quite certain there was something wrong with the gas. The fact that both pots were alike and that one had melted all right was not sufficient proof to them that there was nothing wrong with the gas. Giving the burner more gas and generating more heat did not remedy matters.

The hole in the tin was made larger. Still it did not melt. As the hole was made larger, however, it could be seen that there was quite a quantity of tin in the bottom of the pot that had melted.

A little more investigating showed there was quite an air space between the top of the melted tin and the bottom of the solid tin. The shape of the pot had prevented the tin from sliding into the melted part.

The tin in the pot was now broken up with a bar so that it would drop into the melted portion. Right away it began to melt and in the ordinary length of time it was all melted.

Where Carelessness Entered

There had been nothing at all wrong with the gas nor with the equipment. The failure to melt the tin had been due to carelessless on the part of someone. Either at night or in the morning someone had drawn off some of the melted tin from below the solid. Enough had been drawn off to leave an air space.

When the pot was heated the air in this space was heated. It rose through the hole in the solid tin. Cooler air settled and took its place. A balance was struck between the heat of the burner and the cooling effect of the circulating air and the tin did not melt. After the cause was discovered, it was all simple enough.

Yet if Mr. Peterson had not been on the job that morning, if he had not stuck to it until he discovered what the real trouble was, even though it did require the whole morning, that installation would most certainly have been removed. To the people who had bought it, no explanation seemed satisfactory at first except that there was something wrong with the gas. When the real cause of the trouble was made clear they were satisfied.

What satisfied them most, however, was the interest and the attention that was given them. Because they feel that they can call upon the gas company and have such problems as these solved they are more than ever inclined to use gas It pays to follow up installations.

Oil-Shale Investigations

Preliminary experiments have been made at the Salt Lake City station of the Bureau of Mines on topping shale-oil samples to learn the effect of barometric pressure on the amount of light distillate produced. The experiments emphasized the necessity of "cutting" the distillation at different temperatures, depending on the barometric pressure in order that unsaturation determinations will always be comparable. Investigations are being made at this station to determine what principles are responsible for the fact that the oil-shale assay retort yields better oils than other retorts when treating any shale. Results show that the best oil is produced at slow rates of heating, and that repeated condensation and redistillation is not responsible for improvement in the oils when retorting. A new study is under way at the Salt Lake City station in which the shales will be heated to different temperatures within their range of thermal decomposition. The oils, gas and spent shale simultaneonusly produced will be examined. A method is being worked out whereby various types of retorts can be compared when the rate of distillation is determined.

C. W. Person to Wed

Charles W. Person, secretary of the publicity and advertising section of the American Gas Association, will be married on June 10 to Miss Katherine Adeline Siemers, of Brooklyn. N. Y. Following a honeymoon trip, the couple will make their home in Brooklyn.

Mr. Person graduated from Columbia University in 1912 and immediately thereafter served for four years as a reporter on the staff of the *Sun*, New York, which paper has since been published by Frank A. Munsey and the name changed to the New York *Herald*. Following his newspaper work Mr. Person was managing editor of *Popular Science Monthly* for three years.

Charles W. Person

During the war he went abroad with the Seventy-seventh Division and was later assigned to the Intelligence Corps of the American Commission to Negotiate Peace in which duty he co-operated with the secret service men and was a member of the party which met former President Wilson at Brest on both of his trips to the French capital.

After the war Mr. Person was in charge of publicity work in national headquarters of the American Legion in New York and he left that position to become secretary of the publicity and advertising section of the American Gas Association. This position he has held for the past two years.

Factors in Our Commercial Development

We Are Advancing, but We Must Consider All Elements

By OSCAR H. FOGG, Secretary-Manager, American Gas Association

Every man who has fixed his eyes on the future of the gas business has tried to visualize the time when we could say, "Yes, we're ready to take any class of business, in any volume, at any time. That's what we're here for." We dream and hope for its realization and we know that until we begin to approach it as a reality ours is a weak position from the strictly commercial standpoint of business development. The uniform maximum load is our goal, but there are many obstacles in the way and I believe the time has come to devote ourselves more energetically to their removal. Don't let me seem to convey the impression that there has been nothing done. One of the most valuable steps so far undertaken was that made by William Gould, now the vice-chairman of our commercial section. As chairman of the committee on filling in the valleys of gas and appliance sales two years ago, he presented a clear analysis of this situation and suggested remedies and it is one of the activities developing from that study that I shall refer to particularly a little later on.

When Colonel Fogg delivered this address at the regular monthly meeting of the Gas Sales Association of New England last week he had a message for the entire industry. We are glad of the privilege of publishing his splendid thoughts on a most important subject.—Editor.

I believe it is not unduly critical to say—and I say it of no one section, but of the gas business throughout the country generally—that in the devotion of our sales effort to the established proven fields, we have given too little time to the effort to create those fields which might be made to build up the low spots in the yearly curve. We don't want to cut off the peaks and use those to fill in the valleys. We want to find new material for filling in so that the valleys may be brought up to the peaks and it was to that end that the work of Mr. Gould's committee was directed. Like all people in business, we want to operate all the time at maximum capacity and not on a part-time schedule.

In some cases we find extensive house-heating business being turned away or limits put upon the volume of that class of business to be accepted, because it threatens to impose an excessive demand upon the plant for only a fractional part of the year and if not held in check, it might readily necessitate extensions of plant calling for additional capital expenditure and increased fixed charges, only to have that part of the plant idle for half to three-quarters of the year, depending on the climatic conditions and the length of the heating season. For the three or four months that such business brought us revenue, there would be nine months or so in which the old hill horse of fixed charges would have to be fed at a loss, for our hill horse is made of iron and steel, of real estate and permanent structures. He can't be sold or shifted from job to job. Working or idle, he stays right there. He has to have his oats and he can eat in nine months more than he earns in three. So the problem is to find work for his idle time, to try to work him at a uniform rate throughout the twelve months of the year.

We think that a real step has been taken in this direction in the campaign now under way, which concentrates upon the intensive development of the use of gas for water heating. There appear nearly six million prospects to whom water-heating equipment can be sold and, while some of them would be all the year round business, it is probably that many would be chiefly spring and summer load. It is not to undervalue the domestic use of gas for water heating that I particularly point out the large volume user, the hotels, apartment houses, clubs, office buildings and commercial and industrial establishments, whose boiler plants, when spring comes, often have no other duty than to operate at reduced capacity to furnish hot-water service and can, in many cases, be economically shut down for the spring and summer period and the hot-water demand supplied by gas equipment. For those interested in developing large volume storage water heating for either seasonal or yearly usage I believe the article in the May issue of the *A. G. A. Monthly* will be of considerable value. In this article N. T. Sellman, one of the association's service engineers, has made the subject of estimating hot-water requirements and the selection of the correct heater and tank sizes an accurate study, and it should eliminate considerable of the uncertainty which this subject has always involved.

Will Help Fill in Valley

Where the gas company has a heavy winter load and doesn't dare risk the added peak that any exten-

sive house-heating business would build up, intensive water-heating development is a most attractive prospects and it is not inconceivable that this and other classes of spring and summer demand could be so developed as to not only fill in that valley, but actually surpass the winter peak and so, possibly, justify a more receptive attitude toward house-heating business. But meat for one man may be another's poison. There will be sections of the country or localities with specialized classes of demand which are unlike others and the characteristics of the load curve will vary accordingly. So no rule can be set, nor can one class of demand invariably be regarded as solving the problem of the uniform load. It is a subject which requires study and analysis in every instance and I believe that it is not altogether a theoretical proposition to say that it should be the first duty of the sales manager to make a most careful and accurate analysis of the peaks and valleys of his sales of gas and then endeavor to develop the sales of gas-using equipment accordingly. We will not be upon a sound commercial footing until sales departments are permanent and stable, plugging ahead at full strength twelve months in the year and analyzing and minutely studying the field for the purpose of discovering every potential demand that may exist and intensively developing those demands that may help to solve the problem of the variable load

We believe that the enthusiasm with which the water-heating drive is being taken up in all sections of the country will result in proving beyond all possibility of doubt the advantages of such specialized effort and its effect upon the seasonal load, and we believe, too, that the attempt to do the thing in a practical way and on a large scale will, in its practical results, stimulate other effort and suggest new directions in which to find work for the hill horse. In one instance of which I have recently heard, where the normal summer load was relatively low, a thorough canvass of the possibilities disclosed the fact that had not until then been known, that there were several large industries whose fuel-using operations came to a peak in the summer time and fell relatively low in the winter months. Their load, in other words, was just the opposite of the gas companies' and the value of that consumption converted from solid fuel to gas had never been suspected until the curve of gas sales had been produced and analyzed and a study made of the classes of manufacturing work which was done in the community and the possibility of their seasonal demand thoroughly gone into.

Rule of thumb selling is passing on. The men to whom the gas industry looks for sales will have to study the market thoroughly and probe deep into the possibilities.

Quality Merchandise

In general, the success of any merchandising effort is judged by the sales profits made and the turnover of stock. The ordinary department store can be taken as an example of sales effort based on these two factors. But there must be a different major consideration underlying any merchandising effort on our part. Sales profits or stock turnover should not form the foundation in our case. Basically underlying our whole merchandising fabric is the object of increasing the sale of gas. Our primary purpose in any sales effort must be the extension and development of our business through the sale of appliances purely on their value as utilizers of gas. There can be no doubt about that. Therefore, unlike the department store, we are selling for the future; more than the immediate sale is at stake This means that the appliances sold must initially conform to the highest standards of gas utilization and, furthermore, must go on performing efficiently for an indefinite period and rendering useful service and bringing revenue to us long after the sales transaction has been forgotten. Our sales effort might well be said to depend on the one oft-used word—service. If they fail in this respect, then it is our loss and our merchandising effort cannot be considered successful.

This axiom brings us squarely up against what I shall call quality merchandise. We have not yet fully overcome the tendency to follow the line of least resistance—the very human trait of taking the easiest way No one will deny that it is easier to sell the lower priced of two articles when both, to all appearances, and especially to the purchaser, are very much alike. But no one can sustain the claim that it is good business for us from any point of view to permit the sacrifice of quality in order to provide the inducement of low price and easy sale. To cheapen the construction of a gas range to the extent of impairment of its durability, its safety or performance is stepping back into the rut of former years and no man here to-night would give his sanction to such a thing. Yet this very thing is being done. And, strange to say, the cases which have been brought to our attention indicate that it was not the manufacturer who was ready to take quality out of his product, but it was his gas company customer to whom the path of least resistance appealed as the most attractive. It was the gas company customer who had lost sight of the fact that he was selling for the future.

We can all realize the grave menace in such a trend as this, and we can be thankful that it is not more general. We owe it to our business to see that it is checked. The modern merchandiser in the gas business to-day has not even the need of such a questionable excuse to sell appliances. In a land of twelve million automobiles—where the phonograph is a household possession of the poor and rich alike, and the great mass of people buy intelligently—he finds not only that quality counts but that the buying public is willing to pay for quality at its fair price in preference to shoddy at its price. They have been educated and have learned through experience the false economy of the shoddy product.

No Excuse for Shoddy Goods

Not only has the gas merchandiser no excuse, but there has been placed in his hands the insurance policy for quality product, the standard gas-appliance specifications. These were devised for the protection of the gas industry and in the interest of the users of gas appliances. They were the joint work of appliance manufacturers and gas company men. They are eminently fair—sufficiently flexible—are up to date because they are revised annually and they insure quality goods.

I am glad to say that many of our progressive companies refuse to handle appliances that do not come up to the standard specifications, and some find it

advantageous to advertise that fact to their public. as in this case which came to my notice a few days ago:

> We now have on display a new gas range, with many attractive features. Some are finished in enamel. All are built according to American Gas Association specifications, insuring good material and workmanship and perfect cooking results.

There is ample evidence that such a course is eminently successful. Another company through advertising, acquaints its customers that it sells ranges built up to a specification—not those built down to a price—and this should be the attitude of all.

It is time that the intelligent gasman took a firm stand in this matter—an unqualified stand in favor of quality goods. I hope we will find you all solidly supporting the standard specifications and withstanding any effort that may be made to cheapen the construction of gas appliances at the expense of essential quality. Let us keep the goods that go to our public and that use our commodity on a par with or better than those of our competitors.

I have said that the public of to-day has been educated to buy quality goods It has been properly said that commercial values are not fixed by theoretical arguments but that they are fixed by trading in the market place. Values represent a consensus of opinion. That is where this education has come in—in forming this consensus of opinion. Therefore, it should be our task to make our public believe that gas service is essential to their comfort and happiness. and we should build up a consensus of opinion that gas appliances for every practicable reasonable purpose are necessary to the convenience and comfort of modern life. We should go even further than that. We should build up the consensus of opinion that gas appliances, while being such a necessity, are quality appliances.

Using Public Opinion

Much has been done along those lines but I believe the question may properly be asked that if, in this effort, we have not been just a trifle too practical and too prosaic. In other words, have we not slighted the

(*Continued on page* 472.)

New-Business Department

Paper Read at Southern Gas Association Convention

By C. S. MORSE, Secretary and Treasurer, Portsmouth (Va.) Gas Company

Prior to the beginning of the Great War in 1914, it was practically the universal custom of gas companies to sell appliances and vigorously campaign for new business. Many gas companies had regularly organized new-business departments, with a new-business manager in charge. Others had less pretentious sales organizations but, nevertheless, very effective ones. In both cases salesmen were constantly scouting for new prospects and opportunities for enlarging the sphere of gas service.

To-day we find a difficult condition existing. Some gas companies have discontinued the sale of appliances entirely, while others are handling them in a more or less half-hearted sort of way. It is true that some have gone as far as employing a few salesmen and doing a little advertising, but on the whole there does not seem to be the old-time pep and enthusiasm to sell our product that characterized the old-time campaigns for new business.

Naturally there must be a reason, and in attempting to find it let us begin where we left off a few years ago. Let us take a brief retrospective look at the road our business has been traveling. Perhaps it will at least suggest a partial answer.

We are all familiar with the heavy burdens, financial and otherwise, that we have had to carry since the beginning of the European struggle in 1914. The nightmare of steadily climbing operating costs, together with greatly increased demand, ofttimes calling for additional capital outlay at most inconvenient times, in the face of a fixed rate found grossly inadequate to meet our war-time needs, is all too well known to need elaborating upon here. Through no fault of our own we were forced to bid in open market, in competition for labor and supplies, with firms and manufacturers who, not being under the control of price-fixing bodies, could pass their increased costs on to the public in higher prices with additional profits added, while that same public had become so accustomed to either a fixed price for gas or to a downward revision of rates whenever a change occured that it was at first skeptical and then very slow to realize the serious difficulties that confronted us and the imperative necessity for relief. Thus was all incentive to increase the sale of gas destroyed, and it began to mean that the more gas some of us sold the more money we stood to lose.

Under these conditions, then, it is little wonder that many gas companies found themselves forced, for a while at least, to suspend all new-business efforts, disband their sales forces and simply passively supply appliances demanded of them or discontinue the sale of them entirely, with the hope of keeping expenses within the limits of income and the increased demand for gas at a minimum.

Conditions Improved To-day

To-day, however, we find conditions vastly improved along these lines. The sudden abnormal, overnight war demands, taxing our capacity to the limit, are behind us. We can look forward to a more evenly balanced output of our product.

More important still, our rate-making authorities, having become convinced of the justice of our cause, responded in most cases as only able, fair-minded and impartial judges could have responded, first with one increase to a company, then in many cases a second,

third and even more, according as necessity required.

Assurance has thus been given by them to holders of gas properties that a gas company's right to a reasonable return on its investment is recognized and will be duly provided for, and that capital outlay will be adequately safeguarded and protected.

This attitude on the part of our public service commissions, then, together with the more uniform demand for gas now obtaining, restores the major incentives that have been lacking and makes two good reasons why every gas company should feel encouraged to again resume its efforts for extending its service to reach as many people as possible.

Our first step, then, should be for us to look over our plants and distribution systems, make a survey of our resources and figure the amount of increased sales of gas that we can handle without expenditure of additional capital—then work our sales up to that point. Only in this way can we obtain maximum benefits from our investment.

We can go a step farther and approximate the increased consumption we can take care of with such additional capital outlay as we can make and, if desirable, work up our sales toward that point.

We all agree that the surest and most economical way to increase the sale of gas is by increasing the number of appliances that burn that gas efficiently and economically.

All Appliances Not of Help

All gas appliances do not help a gas company. Those that continually annoy and worry the consumer, whether the cause be from faulty design or improper installation, do the gas company more harm than good. Not only do they run up our costs for consumers' maintenance, but, what is more, they endanger a customer's good-will and make us lose the sale of other appliances to friends and acquaintances of his.

In the eyes of the public, good gas service means more than delivering a certain B.t.u. standard gas to the meter at proper pressure. The consumer wants and is paying for satisfactory results from the burner. No matter whether it be in a range, a water heater or an industrial appliance, if he fails to get proper combustion at the burner everything else is of little avail.

If his appliance has come from the gas company the chances are he is going to get satisfactory results from it. The gas company realizes that its interest in the appliances doesn't end with the sale of it—it begins there. It will therefore be careful to see that the range or other appliance is installed properly, with sufficient gas supply, proper vents, correct air adjustment to the burners and adequate size meter to do the work required. The customer, in this way, gets the advantage of the scientific training and experience of the gas company, first, in its original selection for sale of the appliance (for, as a rule, he himself wouldn't know a good one from a poor one); second, in its proper installation, and, third, in its proper maintenance. Nowhere else in town could he get equal benefits with these in buying a gas stove, heater or other appliance. We are benefited also first, in the profit on the sale; second, in the increased sale of gas, and, third, in heading off complaints and costs of attending to them.

The Logical Place to Buy

We want to remember that the logical place to buy gas appliances is from the gas company. It's different somewhat in the electrical business. Here you find first-class electricians in our cities, men who know their business and who make a specialty of service as well as of selling the appliances. If an electric iron or toaster, for instance, fails to heat properly, who gets the complaint? The electric company? Not much! It goes to a private dealer and the customer pays for time and material necessary to repair it. But let that same man have a gas toaster, gas iron or gas range that needs attention, and it never occurs to him to notify a plumbing and gas-fitting shop. Oh, no!—he'd as soon think of phoning an undertaker—he calls up the gas company and the gas company has to send up and remedy the trouble, in the big majority of cases at its own expense. It is vastly to our interest, then, to see that he gets the right kind of appliances in the first place. We can be sure of this in at least one way—by supplying him with it ourselves.

The inclination to buy appliances strictly on price will doubtless always be with us and be doubly strong during these times of deflation and keen competition. Yielding to this temptation, however, at the sacrifice of quality will not help us, even financially, for the extra cost of servicing the cheap appliance will far outweigh in the end the immediate advantage of a lower purchase price. Quality must gradually again replace price as the determining factor in selling, and those manufacturers who are courageous enough to resist the suggestion for a cheapening of their goods for the sake of cutting prices a dollar or two deserve credit and encouragement from operating gasmen.

Sold on Service

The appliances sold by a gas company are not sold on price but on service. Nevertheless, the article rarely costs more than, if as much as, a similar style inferior article sold in stores. Another advantage we have in selling gas appliances is that we can hold down the retail level of prices to the public and thus enable more people to get the appliances they need.

People didn't care much about price three years ago. They care a great deal about it to-day.

Not only is price a big factor in selling, the terms are equally so. To do very much selling of gas appliances to-day, in the domestic field at least, we must arrange a deferred-payment plan that will make it easy for a customer to buy them.

A reasonable assortment should be carried and the choice of a prospective customer not restricted to only one or two styles, especially of such appliances as ranges. Our displays of stoves, for instance, can have plenty of variety in design and finish and at the same time be part of one manufacturer's line.

We may be sure that other kinds of cooking appliances will be offered to the public in constantly increasing numbers, backed by most convincing sales literature and catchy advertising. We must educate our public still further, by similar advertising and sales methods, to the fact that gas, for most uses, is superior to-day, from an economical as well as an efficiency standpoint, to any fuel in the world. Man-

ufacturers of gas appliances should enthusiastically co-operate with the local gas company and see to it that good sales literature describing their line is provided for use by those selling their goods. Better add fifty cents or a dollar to the price of a range and advertise it, than to offer a woman a stove of which she has never heard.

Telling the people about our goods and service through the newspapers and other advertising mediums will react greatly as a good-will asset. It assures Mr. Citizen that we are alive and that we want his business. If we succeed in selling him, then, in addition to the direct benefit derived from selling the appliance, we get into closer relationship with him; and it is reasonable to believe that, as a rule, when people trade with you they are friendly—at least, they are not openly antagonistic to you.

Building Increase Offers Opportunity

We are told by very responsible authorities that our country is short more than a million and a quarter homes. No matter whether these figures are accurate or not, there is certain to be a large increase in building in this country, especially of homes, as the prices for construction get more stabilized. Thousands of these homes will be built in cities—on gas lines or close to gas mains—and each one will at least have some kind of cookstove. It is for us to be ready now to go after them and sell them gas ranges, water heaters and other appliances needed in the modern home. If we fail to do our duty here, or leave it to others to do for us, we will have only ourselves to blame in the years to come.

Not only must these new homes be secured for gas service, but there is in nearly every city much additional business to be found in the present buildings that line our mains, and which can be secured if we go after it hard enough.

Some of us are not showing the same percentage of increase in sales during the past year or two over the previous year we formerly did. Part of this is due, of course, to the cessation of war work in some localities and to the general depression that we have been and are yet passing through, but some of it at least is also due to our restricted sale of appliances three, four and five years ago. Let us remember that in selling a range, water heater or other appliance to-day we are in most cases, insuring the sale of gas five, ten and even fifteen years from now.

Should Make Reasonable Profit

In doing this there is no legitimate reason why we should not make a fair and reasonable profit on the merchandise we sell. The selling costs and margin of profit must, of course, be worked out by each company for itself, but care should be taken in figuring costs here not to unduly burden gas appliances with proportionate expense charges that should not really be included but charged against the proper operating account under new-business department.

The fact that many of our public service commissions, representing the people—these experts who have made an impartial study of the matter—recognize the need of new-business efforts by a gas company, just as sales efforts are necessary by other manufacturers, and consider the cost of such efforts as a legitimate operating expense instead of being a direct charge against merchandise and jobbing of gas appliances—this fact is strong evidence to show that the public is not only willing but that it even expects and desires the local gas company to be aggressive in the sale of its product and the appliances that use that product.

The rapidly widening industrial field is beckoning us onward, and is one more reason for having a new-business department. We have facilities, through our gas associations and their experts, for enabling even the smallest companies to go after this class of business in an intelligent manner, analyzing sales possibilities and planning installations that will meet the needs of the prospect and render him service at the most economical cost. In doing this we will not forget that a great deal depends on the manner in which an appliance is installed.

Wholesale and Retail Prices of Gas

In this connection the writer believes that sound merchandising of gas calls for wholesale and retail prices of gas. In other words, we should have a step-down rate, worked out by each company according to its operating costs—one that will make the quantity of gas used through one meter a factor in the price paid for it. The consumer using from fifty to one hundred thousand feet a month should certainly be entitled to a lower price than the one whose bill runs from one thousand to five thousand feet.

The old reasons for not going after new business have mostly been removed. Times have changed; a better era is slowly but surely approaching—an era of peace-time prosperity. We must therefore now go forward, or lay ourselves open to the charge a few years hence that we have been lacking in foresight, in vision and in ability to read the signs of the times.

Wanted—A Summer Market for Gas

Eveyr employee of the Philadelphia Company and affiliated corporations has an unusual opportunity at present to help advance the fortunes of his or her employer. The mild winter, coupled with a severe business collapse, has seriously affected the demand for gas. This has left the Equitable Gas Company with a larger surplus of this unrivaled fuel than it ever had before. The period of maximum demand of the domestic patron is at an end and it will be many months before the consumption of gas will again tax the ability of the company to supply all needs.

In the meantime, an energetic effort must be made to market the surplus to secure the revenue that will be necessary to pursue filed explorations and keep the transportation lines and distribution system in condition to render the best possible service. Quantity gas must be sold to industries. Employees can help to make this market by letting their acquaintances in industrial lines know of the wonderful superiority of this splendid fuel and of the company's ability to supply it in sufficient quantities during the summer months. The coal strike and a prospective scarcity of coal next fall and winter may induce many to use gas this summer and save the coal pile for that period when the domestic consumer will want gas in maximum quantities.

(*Continued on page* 476.)

A Lower Heat Unit Basis

Paper Read at Southern Gas Association Convention

By EDWARD L. RIEHA, Baltimore, Md.

Within the past twelvemonth a great deal has been said and written on this subject, so that we shall confine ourselves more or less to a general emphasis on the pertinent facts which affect the development of the gas industry and the relative advantages that will be secured for the gas company and the consumer by manufacturing and distributing a lower heat unit gas.

A marked feature of to-day's advances in technical study has been the direction of thought and discussion to the more economical utilization of fuel by the realization of higher efficiencies. It is one of the problems in work in which, generally speaking, this country has been backward, largely through an adherence to partly traditional methods and evidently more so to an indifferent regard for proper fuel conservation; this primarily so owing to the past cheapness of coal on the one side and the liberties of the consumer in respect of the manner of its use on the other.

Times have changed. Heat, power, labor, materials and everything else have gone up in cost, and so manufacturers have, perforce, become more concerned in economies which shall help to ameliorate the expenses that are unavoidably higher. The need is coming to be looked upon as a duty, and this has been hastened by a sincere publication of the facts from reliable sources, in some cases voluntarily and in others with a certain amount of personal interest.

At any rate, an atmosphere of higher efficiency in the use of fuel has been successfully created, and this is the first step to a better state of things through investigation and practical application.

It cannot be denied, at least, in this respect that so far there has not been sufficient invention or actual exploration taking place, and as the matter is undoubtedly of national importance we gasmen must take a more active part in the movement forward.

Truly, it is a many-sided problem. Coal utilization goes on everywhere and the purposes of its use are diverse. In a careful survey, however, it must be admitted that the gas industry has made unquestionably greater strides in better utilization of coal in the interests of the country's resources than any other commercial undertaking.

Gas Indispensable

Gas has, through its enormous usefulness, proved practically indispensable for the welfare, comfort and improved hygienic surroundings of millions of our people.

The tremendous increase in consumption of gas in the past decade shows that requirement and beneficial use cannot be directed alone on the lines of thermal efficiency and economy, for we can easily behold a striking example to the contrary in the electric industry, where, with its decidedly lower thermal efficiency, it is still able to encroach upon very profitable ground.

But, taken either separately or together, it is the duty of both these industries to work to achieve maximum fuel economy and efficiency in their respective spheres of operation.

The thermal efficiency of a process of fuel utilization depends to a great extent upon the form of fuel, and it becomes necessary to judge in each case whether it is economically sound to use a large amount of heat from cheap fuel which cannot be utilized with high efficiency or, on the other hand, to use a smaller amount of heat from a higher grade fuel which can be applied with increased efficiency. This is well exemplified in gas-works practice.

In this regard it is impossible to create and set up standards which can be universally applied or accepted without reference to the character of the coal.

For instance, with a medium-grade gas coal that is used for gas making, the expenditure of heat in utilizing it may be as great as, or perhaps even more than, in the case of using a high-grade coal, but the thermal efficiency or productive results will be distinctly inferior. Yet, in view of high freight costs it may be economically sound to use the coal which gives the inferior results—both thermal and productive.

The British Fuel Research Station at Greenwich (Sir George Beilby, director) has given us the useful term "availability of heat" in connection with this aspect of the problem. A fuel of "high availability" for a particular process being one, the heat of which can be used with comparatively high efficiency. All processes of fuel production, it goes to say, have for their object the increase of the availability of heat, and all processes for the raising of "heat availability" are accompanied by losses. The losses may be of heat, or money, or both. These are radical considerations which coal carbonizers particularly should have well in mind when studying their processes or especially when contemplating new ones.

Increase of "Heat Availability"

In the conversion of coal with gas as the primary product, and the same with coke, one has to consider whether, with the most favorable coal, the increase of "heat availability" in the product will show with the new process a balance of gain in comparison with any increase of heat loss, or of capital and other cost. Justification for adoption can only be found in the superiority of gain over loss.

It is evident that two big objectives in the business life of every gas manager should be, first, the economical production of gas for his community and, the other, satisfactory service to the consumer.

This, however, is difficult of accomplishment in the presence of certain rulings that are having statutory existence and are restricting his freedom to initiate new economies and reduce prices on the commodity supplied.

As a number of recent decisions by the Federal

courts in different parts of the country are evincing a marked conciliatory attitude in regard to public utility valuations and rates of return on investment, there is at least hope for the gas industry that, likewise, soon the State regulatory bodies will learn the necessity of permitting the gas companies to select within fairly wide limits that B.t.u. standard which lends itself to the most economical utilization of the raw materials available and renders the consumer the best possible service.

Here will be the dawn of a better day and its semblance is beginning to show upon the horizon of a new era.

The freedom to develop on economic lines is something that contains enormous potentiality. It brings fresh scope to active research and invention for the provision of plant which will enlarge the production of salable B.t.u. per ton of coal treated and for the devising of appliances which will increase efficiency in the use of the heat energy supplied and paid for. If two B.t.u. can be produced where only one was produced before, and this by some reduction of the heat hitherto expended in the work, and if one B.t.u. can be gotten to do nearly the same amount of usefulness as two B.t.u. did before, the aggregate increase in efficiency of the gas industry will be of a stupendous order and the raw material saved of pronounced national importance.

The task which the industry has before it is not an insignificant one, but it is better to have this task, with its imposing train of possibilities, than to have continued limitations to development which to-day are mainly fostered by suppressive measures on the heat quality of gas.

It is my firm belief that most of these conditions are permitted to exist for lack of co-ordination and enlightenment.

The problem calls for a serious and intelligent move onward with the intention to achieve, always sensible of the fact that it is progress that we are out to win—progress which means extended service to the community and so greater stability for the industry. Every increase in stability means longer life and greater vitality, and while such increases continue the gas industry may confidently think of itself in terms of permanence.

Progress Will Be Gradual

The progress, however, in the new constructive work will be gradual, in order that every step may be carefully guarded and fully assured. Attempted big flights or sudden giant strides must be deprecated. The industry has something existing that is valuable and it is from the stage of what exists that we have to begin our work. Evolution is the correct and surest process, and not revolution.

Further, it will materialize ideals and enable us to reach goals with greater safety than revolution, which too often proves of detriment rather than of benefit in the end.

At the same time we are not among those who are content with the slow, shuffling movements of old age. The gas industry, by reason of its position, must advance healthily with vim and youthful vigor, yet with a prudence and precision unhampered by any discriminative limits of pampered legislation.

It must be agreed that there is no finality to actual development that we can foresee at present, and by a well-ordered progress over carefully explored ground the industry will retain its enviable position which it has already established in the country's diverse manufacturing and trading activities, and with the predominating aim of giving maximum service at lowest possible cost.

It has proven extremely difficult to set down definite figures for the calorific value of a lower B.t.u. gas which could be applied universally. Existing plant conditions and locality have an important bearing on the subject.

The discussion which has arisen principally relative to the minmum heating value limits per cubic foot of gas has brought forth a wide diversity of opinion—and rightly so! Yet, taking the vast majority of the expressions from reputable gas engineers in this country, no one will deny the fact that such high B.t.u standards as have been prevailing, and especially in some sections of the South, are totally wrong and unfair, not only to the gas company but likewise, if not more so, to the consumer.

It was with the purpose of rectifying this error and commanding some publicity on the subject that the Committee on Calorific Standards of the S. G. A. offered its report with considerable emphasis and recommended a gas-heating value ranging from 425 B.t.u. to 525 B.t.u. per cubic foot, whichever was best suited for the respective gas company and the community it serves.

The amount of investigative work which has been going on within the past two years, superseded by the ready adoption of several processes for the manufacture of lower grade gas, has quite firmly established the advisability of recognizing the more liberal standards than heretofore. Consequently, the time has long since passed for debating the relativity of high and low heating value gas.

A 600 B.t.u. gas gives good illumination in a flat-flame burner, but if a non-luminous 425 B.t.u. gas could be substituted in mantle light it would be a far better public utility servant than the luminous gas, if for no other reason than that it would prevent sooting of burners and the messing of fixtures so dreadfully common in towns where high-quality gas is still being supplied. Naturally, where there is sooting you have incomplete combustion, disagreeable odors and excessive heat losses—all an added expense to the consumer!

In the numerous tests which have been lately conducted there is ample evidence to reaffirm the fact that for similar service and efficiency compared with a high B.t.u. gas the volume of a lower heating value gas does not have to be increased proportionately to its drop in B.t.u Gas of a lower heating value is possessed of certain advantages which are totally absent in a high B.t.u gas when used under ordinary domestic conditions, and these advantages prevent the difference in volume being marked. The efficiency in use is also a deciding factor not to be missed.

It is true, of course, that the consumer would be just as well off with gas in concentrated form as with gas of less concentrated heating quality, so long as he obtains it on a comparative price basis and can utilize either gas with equal efficiency. But can he? There is the point!

If all domestic appliances on high calorific value

gas could be kept constantly in good order and adjusted there would be a possibility of maintaining the same efficiencies in heating value; but experience has taught us otherwise.

An Illustration

Let me illustrate something about the differences in volume used by saying that while 200 cu. ft. of 500 B.t.u. gas produce 100,000 heating units, 250 cu. ft. of 400 B.t.u. gas equal the same total of heating units at an increase of 50 cu ft. But there are few operations in which the entire 100,000 B.t.u. are applied all at once. If we take the usual gas fire requiring 10,000 B.t.u. per hour, the difference in volume of gas consumed would only be 5 cu. ft. spread over the hour. Furthermore, a point in this connection to be well observed is the fact that the volume of air supplied for complete combustion in the mixture with the lower heating value gas is smaller than in the case of the higher B.t.u. gas, thus affecting flame temperature adversely with the latter gas.

As further illustration of the comparative efficiencies with high and low heating value gas used in various type burners, I call attention to the attached table showing results of actual tests:

Test Number	Heating Value	Cubic Feet per Hour Cor.	B.t.u. Gross per Hour	Efficiency % on Gross H.V.	Height of Kettle Above Burner	Pressure: Meter Inlet 10ths	Pressure: Nipple 10ths	Temperature of Water Fahr	7 lbs. Water Heated to 212°: Gross B.t.u.	7 lbs. Water Heated to 212°: Cubic Feet Gas Cor.	7 lbs. Water Heated to 212°: Time in Minutes
HIGH B.T.U. GAS											
1—Standard cooker	588	16.0	9,408	34.6	1⅜"	25	..	60°	3,078	5.4	19
2—Standard cooker	588	17.7	10,408	34.0	1⅜"	30	..	60°	3,128	5.3	18
3—Standard cooker	490	17.89	8,766	34.7	1⅜"	30	..	60°	3,068	5.9	21
LOW B.T.U. GAS											
4—New type cooker.....	405	11.395	4,605	58.62	⅜"	12	10½	60°	1,815	4.4	23
5—New type cooker.....	420	21.902	9,199	58.62	¼"	30	21	60°	1,815	4.3	11
6—New type cooker.....	421	23.086	9,719	57.86	¼"	30	20	60°	1,839	4.3	11
7—Standard type cooker....	412	25.216	10,389	36.32	1⅜"	30	28	60°	2,928	7.1	16

Allow me to quote one typical case of the waste that occurs with a high B.t.u. gas used in the usual class of stove burner for boiling. Here there was a gas of 563 B.t.u. that gave an efficiency of 34.66 per cent with the supply cock full open and consumed 15¼ cu. ft. per hour at a district pressure of 28 tenths. With the tap about half open and the flame touching the bottom of the kettle, the efficiency was 39.77 per cent using 10½ cu. ft. per hour.

The consequence, as you will readily note, was that 45.4 per cent more gas was used with the tap full open than when half open, and there was a further decrease in efficiency of 5.11 per cent.

Condition Is General

This state of affairs is, I am afraid, quite general wherever high heating gas is being supplied, as later investigations did prove that many working appliances in similar districts gave almost identical results. Now, assuming that the average conditions are only half as bad as these tests indicate, it shows that in most towns, at all events, there would be no perceptible increase in volume delivered even if the quality was reduced below 450 B.t.u.

From the foregoing testimony it must be evident that these wasted B.t.u. are not only a nuisance to the householder but a vital cause of excessive gas bills as well. And it is obvious that as these wasted B.t.u. have to be made, stored and driven through the mains, services and meters, their useless presence diminishes the capacity or efficiency of the distribution system to an equal or greater extent than does the delivery of a lower grade of gas. So that, apart from monetary loss to the consumer it appears that the greater losses in the use of a high B.t.u. gas the greater the volume which must pass through the mains, services, etc., to satisfy the ravenous appetite of existing appliances.

In certain sections of the country where high calorific value gas is being sent out there is sufficient proof in this, that owing to the appalling wastefulness in the use of this grade of gas the distribution systems are already doing more work than would be the case if a lower B.t.u. gas was supplied.

One more word about the tests herein appended. It was my intention when starting this paper to include a list of elaborate detail work in respect to the use of a lower B.t.u. gas, with various kinds of appliances, but I shall refrain from this purposely.

Government Report

My reason for doing so is prompted by the fact that only two weeks ago I had the privilege of visiting the U. S. Bureau of Standards at Washington where, through the courtesy of the gas engineering section, I was shown an extensive report on the relative uses and efficiencies of high and low heating value gas. The amount of accurate research, experiment and detail data connected therewith is so thorough and affirmative that I commend to your earnest reading this report, copies of which will be ready for distribution in about sixty days.

It should be the bounden duty of every gasman to

(*Continued on page* 474.)

As the Journal Views It

Removal Notice

The "American Gas Journal" is now located in the Dodge Building, 53 Park Place, New York City. Our new telephone number is Barclay 6736.

Courteous Treatment

Of late there has been some little discussion of just how far a company should go in its dealings with a dissatisfied or disgruntled customer. The question is whether to allow an unreasonable customer to practically make rules for himself or to force him to abide by such general rules as may have been formed for the operation of the property.

In this connection one of those taking part in the discussion brought forth a very pertinent question when he said: "Who is to judge whether the customer is wrong in his attitude?" He went on to explain that he had heard some of the employees of his own company handling a customer and he was much in doubt as to the judgment displayed by his representative. He added:

"Now, this man, when I talked with him later, was most surprised, for he honestly believed that he had been extremely courteous and gentle with the customer. But, as a matter of fact, he had not even been conciliatory, and although he had followed the book of instructions in every particular the human element had entered into the transaction and the result was disastrous."

Some companies have overcome this objection by having classes at which the employees are instructed not only as to what they say but also as to their manner. This latter is extremely important, and when a company takes the time to have these drills it will be found to be of real value.

We had a rather unfortunate experience with a clerk of one of the companies recently, and we were much surprised to learn that he had been obeying orders of the man directly in charge of his department. We were told, on making inquiries, that the treatment we received was that ordinarily extended to all customers, and we can understand the feeling of that community toward that particular company.

Stimulating Sales

It is a splendid work that the American Gas Association is doing in studying the sales situation of the gas industry, and the suggestions that have been forthcoming have been constructive and practical in every way and we hope that they have been placed in operation by companies in different parts of the United States. All of which was brought to mind by the excellent address made by Col. Oscar H. Fogg, secretary-manager of the American Gas Association, last week at the monthly meeting of the Gas Sales Association of New England, and which is printed in another part of this issue of the AMERICAN GAS JOURNAL.

The subject is a broad one, and one that has tremendous possibilities if properly approached, and we are glad to fall in line with the Association, for the committee in charge of this particular work is advancing many ideas that cannot help but stimulate sales and so better the conditions of the industry. We earnestly recommend a close reading of Colonel Fogg's address.

Coal-Tar as a Timber Preservative

For many years coal tar has been used extensively as a timber preservative, states W. W. Odell, fuel engineer, in Technical Paper 268, just issued by the United States Bureau of Mines. The antiseptic and preserving properties of coal tar are recognized throughout the world. Tar prevents decay, not only by its antiseptic properties but also by its waterproofing qualities, whereby the pores of the wood are filled. It is used to preserve fence posts, telephone poles, and heavy building timbers, and for such purposes is applied with a brush or the timbers are dipped in hot water-free tar. By far the largest proportion of the tar used for preserving timber, however, is mixed with creosote oil. Large quantities of mixtures of this nature are used annually to treat paving blocks, railroad ties, crossarms, and telephone poles. The brush method is not as common for this purpose as the closed-tank pressure method, wherein the actual absorption of the preservative is many

times greater. Although it is generally understood that some of the tar distillates are superior to tar for preserving timber (especially when the proportion of free carbon in the tar is high) the difference in first cost favors tar.

When used for treating timber the tar should be hot and free from water, and to obtain the best results the timber treated should be as dry as possible, as the absorption and penetration is considerably greater under these conditions than when the wood is wet or moist. The penetration into the wood is not so great with tars with a high content of free carbon as with those of a low free-carbon content.

The amount of preservative required per unit of area with the brush method is greater for tar than for tar distillates. The exact amount cannot be stated by a figure universally applicable, because the condition and kind of wood, as well as the quality and kind of tar, affect the results. However, it can be said that a gallon of hot tar will cover approximately 200 sq. ft. of the surface of smooth, dry poles. More tar is absorbed by dry, rough-sawed timber, and a gallon of hot tar will cover 150 to 200 sq. ft. of such surface.

Developments of Gas Technology

Important Information Gathered from All Parts of the World

By ISMAR GINSBERG, B.Sc., Chem. Eng., Associate Editor

Ammonium Sulphate as Weed Killer

According to the March number of the *Journal of the Ministry of Agriculture*, the results of numerous experiments which have just been concluded in various parts of England with solutions of ammonium sulphate have demonstrated that this salt will not only kill the weeds in a corn field but will stimulate the growth of the crop as well. Compared with copper sulphate, a solution of ammonium sulphate (200 lb. of the salt to 60 gal. of water) proved to be more effective in destroying a wider range of weeds. However, it was not as safe to use with pea, bean, vetch and potato crops.

Hird Process of Tar Distillation

The operation of this process in a working installation at the Gateshead Coke Works is described in the *Gas Journal*, 1922, page 149. Among the advantages which are claimed for this process there may be mentioned the following: Plant can run thirty days without cleaning; no bolts or rivets are in contact with the hot tar or fumes within the still; end plates and tubes in the still are the only parts that are subjected to wear and tear, and these can be easily and quickly removed; the stills are not subjected to external bottom heat. It was found that the existing method of gas firing was economical. The labor employed is very small, just one man per shift running the gas-fired plant.

Sulphur from Gas Purification Residues

It is well known that ammonium sulphide will dissolve sulphur. This reagent is used to extract sulphur from spent gas purification masses in a process patented by the Badische Anilin und Soda Fabrik (British Patent No. 174,143). The activated charcoal, which is used for removing sulphur compounds from gas, is treated with the vapors of ammonium sulphide, which dissolve the free sulphur that is contained therein. The whole operation is conducted in a closed cycle. The apparatus used consists of a distilling vessel, a condenser and an extraction vessel, with or without a separate receiver and pipe connections. The inner surface of each part of the apparatus which is exposed to the action of ammonium sulphide fumes is made of an aluminum alloy.

Transformer Oil from Tar Oil

It is possible to subject tar oils to an oxidation treatment which yields a product which can be used successfully in alternating current transformers. This valuable product is made from cheap tar oils according to a process patented in Germany (see German Patent No. 332,249). The tar oil is treated with a mixture of potassium bichromate and potassium permanganate at low temperatures. The tar oil is caused to separate into two constituents, one a viscous resin and the other a thinly flowing oil. The tar oil is either treated directly with the oxidizing agent or else it is first dissolved in a solvent, which is not attacked by the reagents, and then oxidized. In the latter case the process can be carried out at a temperature of about 0 deg. Cent.

Gas Burners for Impure Gas Firing

For this purpose the ordinary form of gas burner is provided with tubular inlets which give the burner a cross-shaped cross-section. They form wedge-shaped air passages leading from the exterior to the inner part of the burner. Through these passages the primary air used for the combustion of the gas is fed to the latter through the action of the kinetic energy which is inherent to the gas. In this manner a very intimate mixing of the air and gas takes place, with the result that the subsequent combustion is complete. For more details see German Patent No. 333,204, which has been assigned to the Maschinenbau A. G. Balcke, of Nuebeckum, Germany.

Measurement of Large Volumes of Gas

This is the title of a new German book published by O. Spamer, Leipzig, Germany, and written by L. Litinsky. The book deals with the various methods used to determine the quantity of gas produced and used in industrial establishments. There are numerous figures, tables, sample calculations, etc.

Financial Aspect of Gas Business*

Our Needs Must Be Supplied if We Are to Grow

By H. M. ATKINSON, Chairman Georgia Railway & Power Company, Atlanta

The phenomenal growth of the public utilities of the United States and the increasing demands made upon them for better service and for extensions to meet the growing needs of both the urban and rural population have placed upon the utilities a very heavy burden, that burden being the necessity of raising annually large sums of money—new capital—with which to meet these demands of the public.

It would be difficult to forecast accurately just what the sum total of these requirements will be during the next few years for the whole country, as it is well known that during the war period companies generally were not able to keep up with the requirements. All drew heavily upon their reserve capacities to produce and distribute their product, and many companies exhausted their reserve capacity entirely. There is, therefore, a lag to be made up as well as current necessities for which to provide. Almost every building that is constructed for residence, commercial or manufacturing purposes makes demands on one or more of the utilities for some kind of service, and these demands must be met from new capital expenditures or by drawing on the reserve capacities.

Fifty million people are directly dependent upon gas service. Over forty million people are directly dependent on electric service. Sixteen billion people were carried on street cars in 1920. The combined investment in all the public utilities (excluding the steam railroads), gas, electric lights, street railways, steam heat, telephone, etc., is approximately fifteen billion dollars. Consider these figures and it is realized how tremendous the public utility industry is as a whole and how large the aggregate of new capital needed yearly to meet the increase in the demand for service.

Must Have Assured Earnings

This constant demand for new and additional facilities to keep up with the growth of the country means that each utility must go to the money market and bid for the necessary funds with which to build—and the price that the utility will have to pay depends on many factors, the most important of which are its credit and its ability to earn and pay its fixed charges and dividends after having provided for proper retirement and contingency reserves. In other words, the utility's ability to earn and its past history of earnings are the yardsticks which decide whether it can borrow at all or not. But as to the price it must pay for its money. There it must meet competitive conditions. The utilities, having regulated earnings but not assured earnings through regulation, and often insufficient earnings because of faulty regulation, must meet the competition of the non-regulated industries and the tax-free government or municipal bond.

*Paper read at Southern Gas Association convention.

Tax-Free Bonds Hamper Utilities

The large increase in the amount of State and municipal financing for the year 1921 as compared to the previous years 1920 and 1919, and the corresponding decrease in the amount available for corporate purposes, is a matter of common knowledge. This situation gives emphasis to the importance of the move now under way to pass an amendment to the Constitution of the United States to permit the taxing of municipal and State bonds for income tax purposes. Unless this is done the investment surplus from large incomes will continue to use this avenue of escape from the present excessive taxes and surtaxes, and the money formerly available for utility and other corporate purposes will seek the investments that do not result in practical confiscation.

It is important that the contemplated amendment should be adopted. Unless the amendment is adopted there will be no cheap money for the utilities. The present opportunity to issue tax-free bonds is rapidly increasing the budgets of States and municipalities, thereby greatly increasing their taxes. To equalize the competition of tax-exempt State and municipal bonds, public utilities generally are forced to pay under present conditions at least 8 per cent for new capital, and also a higher State and municipal tax necessary to pay the interest on and amortize the principal of the increased public debts. This higher cost for money and taxes makes higher rates necessary for all public services. So from the standpoint of the pocketbook of the public, out of which all the bills are finally paid, the lower rate of interest on the tax-exempt bonds is probably more than lost through higher street car, electric, gas and other public service rates.

Requirements of the Gas Industry

Without attempting to estimate or forecast the requirements of all the utilities of the United States to meet the requirements due to the growth of population and increased demands for service, it will be sufficient to consider briefly the approximate requirements of the gas industry alone. For this purpose the statistics compiled by the American Gas Association for the year 1920, covering the entire United States, are considered:

Number of companies	966
Number of consumers	8,837,270
Miles of gas mains	68,450
Meters per mile of main	131
Population served	45,997,000
Average consumption per meter in 1920	35,600 cu. ft.
Sales for year 1920	319,888,000,000 cu. ft.
Sales for year 1910	149,430,549,000 cu. ft.

The sales figures show an increase for 1920 over 1910 of 170,457,451,000 cu. ft., or an average rate of increase per annum of 17,000,000,000 cu. ft. The estimated annual increase in the number of consumers based on this increase in sales, and using the sales per meter of the year 1920, is approximately 477,500. But the rapid growth of cities and the demands for service make it more likely that this number will be in future at least 500,000 average per annum. The investment of capital cost to provide for this increase will probably average from $200 to $250 for each consumer, making the annual new capital required for the gas industry alone from $100,000,000 to $125,000,000.

When we consider the amount of new capital required for the gas industry alone, it is easily conceivable that the requirements for all the utilities, excluding the railroads, may readily run from $600,000,000 to $1,000,000,000 per year, probably fully the last-named figure, which is less than 7 per cent of the present combined investment in the utilities, excluding railroads. The problem of raising this large amount of money annually is a stupendous one, especially in view of the unsatisfactory conditions under which utilities are operated to-day—due to faulty regulation.

Firm Foundation Is Necessary

Securities of public utilities were not in favor with the investing public for a considerable time, although they are in better repute at the present time due to belated increases in rates (now already under attack by politicians and others) and the uncertainty of the earnings of the unregulated industries due to the present business depression. When the industrial demand for capital again becomes large it is likely to force the price of available capital for the public utility business higher. If the utilities are to obtain the large amount of capital needed on the most favorable terms it is absolutely necessary that the business be placed on a firm foundation at once, which can only be done by removing the cause of the present dissatisfaction. The most important causes of this dissatisfaction are:

1. The uncertainty of earnings and the continuity of earnings under regulation, and hence the security of investment.
2. The uncertainty in regard to the value to be placed upon utilities by the regulatory authorities.

The result of these uncertainties has been that practically all past new financing has had to be done through borrowing and very little capital has been raised through the sale of stock. If the utilities are to expand and perform the functions demanded of them by the public they must have the ability to finance themselves not only through the sale of bonds but from the sale of preferred and common stocks.

Uncertainty Creates Disfavor

At the present time the stocks of the utilities are not popular with the public, due to the uncertainty in regard to the valuations that will be placed on utilities by the commissions and the consideration that will be given in utility valuations to the intangibles. It usually happens that a large part of the equity of the common-stock holders is represented by these intangibles, and unless sufficient and proper allowance is made in valuations for going value, which may include the cost of developing the enterprise, and for the cost of financing or brokerage, which is only the reasonable and proper charge which has been made by the bankers for handling the various classes of securities of the company, and is obviously just as much a part of the cost of the property as the bricks and mortar that go into the buildings, a part of the equity of the stockholders is confiscated, and the result is that the stockholder is shy on again investing in such securities. Capital cannot be commandeered for public utility enterprises, and in order to attract it on the most favorable terms the investing public must be assured that the profits of the business will be continuous from year to year.

Provide Sufficient Reserves

Again, the public is not satisfied to invest in a business whose profits are not more than the actual amount required to meet the fixed charges and dividends on outstanding stocks, nor does prudent and wise management permit the company to pay out in fixed charges and dividends all of the profits of the business. A utility business cannot be said to have earned a fair return, no matter what that fair return may be, expressed in percentage, until it has earned not only its fixed charges and dividends, but also an amount sufficient to meet the accruing depreciation and to provide for the retirement and replacement of property whenever necessary, and also to build up a contingency fund to provide for the hazards of the business and revolutionary changes in the business. Too often utility managers themselves have been to blame for not providing sufficient reserves. The reserves, not having been actually set up on the books, have not been allowed by rate regulating authorities when later rates have been under consideration. But if they had been set up as prudent management demands they would in all probability be allowed.

No Proper Safeguard

At the present time there is no proper safeguard of the investments in public utilities. The United States Supreme Court from time to time has passed upon certain principles involved in the valuation of public utility properties. The interpretations of these principles have been left to the various regulatory commissions and courts, and the number of interpretations is almost as large as the number of courts and commissions hearing the cases that come up for consideration. It is greatly to be hoped that the Supreme Court in the near future by clear-cut decisions on the principles involved will clear up this situation.

This is very aptly expressed by Dr. Thomas Conway, Jr., professor of finance, University of Pennsylvania, in a recent article on the subject of valuation. Dr. Conway says:

> "In the interest of the public and of investors in public utility properties, it is sincerely to be hoped that the Supreme Court of the United States speedily will enunciate a set of principles governing the valuation of public utility properties so precise, clear-cut and well considered as to quiet the existing uncertainty, re-establish

public confidence in the right of investors in public utility enterprises to protection, and thus bring about a condition under which capital will again be willing to invest in the stocks of utility enterprises. Unless this is done the financial position of public utilities will grow progressively worse, due to the fact that either a disproportionately large amount of financing must be done through the sale of bonds, or progress will entirely cease."

At the present time a great deal is being said about the necessity of helping put Europe on her feet to save ourselves. Our people generally are coming to see the truth of this, and that they are in the same boat. They have learned that they cannot prosper while Europe is starving. The utility problem is the same. To starve and impoverish the utilities, which it has been shown comprise a combined investment, including the steam railroads, of over $35,000,000,000, means to starve the country of prosperity and even of the things necessary to support life itself. With over $35,000,000,000 of the country's total business investment sick, the balance cannot prosper. The public itself to save its other business interests must protect and put the utilities on a sound basis, because every public and private interest, governmental, social and commercial, depends on them.

Scrapping Our Own Future

To scrap them as is being done now means scrapping our own future; in other words, retrograding instead of progressing. Concurrently with scrapping the properties of the utilities the individual is being scrapped. The individual is more important than every other consideration. Individual freedom and liberty, giving full play to individual initiative and creative powers, is the basic principle of our national Constitution. The growth and progress of the country have been created by individual constructive and creative genius. In the past the individual was encouraged. Under present conditions of governmental or political meddling with and restriction of business individual initiative is being chloroformed. Our national policy has been reversed and the results are visible throughout the country. The blight of uneconomical governmental or political regulation of and interference with business is responsible for a large part of the present business ills.

Governmental rate regulation must, in the interest of the public, fix rates for the services of public utilities that assure the utilities adequate earnings, for that is the only means by which the service that is essential to the public welfare can be provided.

Should Safeguard the Public

Government regulation must abandon the standpoint so long prevalent that its chief function is to lower rates, and must be imbued with the idea that it should operate primarily to safeguard service, which is the paramount public interest.

As the government commissions are given sole authority to fix rates, they are necessarily charged with the duty of fixing rates sufficient to provide adequate service; otherwise they become destroyers instead of protectors of the public welfare.

The public, in the last analysis, is responsible for the rates and the resulting conditions of the public utilities, and cannot escape responsibility for a large part of the present ills of high rates and insufficient service. But the public has not yet learned that every time government or political regulation fixes a rate less than a just rate the public itself suffers most of all. Every economic wrong brings its penalty.

Public Must Awaken

One has but to look over the country to see the effects of political regulation of business and its stupendous and unnecessary losses. Present conditions are gradually improving, because the facts are being driven home and becoming so apparent that the people are beginning to realize that government or political restrictive regulation of business under our form of government is most harmful as practised up to date, and that the public is the chief loser thereby. When this is completely realized the public will reform this condition and put its business on a sound basis. There are signs that indicate that a solution of the present unfavorable condition of the public utility business is not far off.

Everything said herein applies to the gas business and equally to all the other utilities. If the utilities would organize as a whole they could more effectively combat faulty regulation. Every particular injustice, every single economic wrong imposed on any individual utility, whether gas, street railroad or electric, is a direct injury to the public utility industry as a whole and contrary to public interest. Every such case should be fought to the last ditch. Submission to wrong by the wronged when the wrong is the result of misuse of legal authority has a tendency to become a habit and in time tends to legalize wrong. Continue determined resistance by all proper means in every instance of individual injustice is vital to realization of the truth on the part of the public. Understanding by the public is essential before the utility business can get on a permanent sound basis. Ignorance of the basic principles is at the bottom of the trouble. People as a rule don't think much outside their individual interests about utilities or railroads, and it is the job of the utilities to put the facts and truth in their broad relation to the prosperity of the country before them and to never relax that effort.

Importance of Publicity

Thoroughly organized, properly directed publicity must be constantly used to present the controlling facts and principles to the public. These facts and principles must be reiterated over and over again. The public, given proper understanding through publicity, will be fair. The subject must be presented along the line of the true material interest of the public itself as a whole, not from the standpoint of the investor alone. This is especially true at the present time, because the public has an idea that the only people directly interested in utilities are the holders of their securities; that if additional costs and burdens can be imposed on the utilities they will be paid by the holders of their securities—in other

words, out of capital. It must be shown to the public that this is wholly incorrect, because the full cost of the service must be paid out of the rates charged or it will become a losing business, will die, and the public will in time lose the service without which it cannot live and prosper.

It is necessary for utilities, especially under present conditions, to recognize the importance of organized publicity work. There perhaps never has been a time when it was as important for all those engaged in industry to understand each other's problems. Prosperity can only come through co-operation of all, rich and poor, labor, capital and government. Co-operation can only come through understanding. Understanding can only come through constant publicity. So public utilities must recognize that permanent continued publicity work, presenting the whole truth, is vital and essential in dealing with the public.

Factors in Our Commercial Development

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quality element, or have we not omitted certain phases of quality which I believe are the most appealing in such an effort. Take, for example, those arguments which we will offer in behalf of a well built gas range, a good water heater, or an efficient industrial appliance. They usually rest their popular appeal upon the claim of economy and certain obvious and well-known advantages over solid fuel using equipment. Can we not go further in developing this "value" by popular opinion? Can we not go further by bringing out the more appealing side, emphasizing the things that reduce labor, that make care and attention unnecessary, that add to the attractiveness and appearance of the appliance, that give it "class" and make it a desirable acquisition from that standpoint alone? Convenience, time saving, labor saving and beauty! Why should the gasman stammer over the word "beautiful" in speaking of the modern gas range when there are ranges that well deserve the term? Yet he does. The housewife will use it freely when she shows the range to a neighbor. Hers is the pride of ownership. But many a gasman finds some hesitancy in using such a glowing adjective, though it be the literal truth and though his should be the pride not only of ownership but perhaps in a measure of conception. And in addition he has justification of the strongest sort. Put a modern gas range in the average kitchen and the tone of that room is elevated; put a storage type automatic water heater in the average cellar and the first step has been taken to make that cellar a real habitable part of the house; and when the first modern industrial appliance goes into the average shop it is an object lesson in what a different place a shop can be.

Possibly it is because we know these advantages so well that we take them for granted, but it is to just such points as these that we find the electrical industry constantly directing attention in their effort to increase the popularity of electrical appliances—to form that consensus of opinion. Let us be more prompt to add these advantages to those that are usually given when the merits of modern gas appliances are described. In short, let us put the appeal more on the popular side. We have many such talking points but too few have been used. See what the push button lighting and thermostatic control did for our ranges—boosted forward in leaps and bounds even the best of our ranges. Why? Because we talked about them. They were additions that came in the convenience class and we told the public so. And that is exactly what we need—more improvements of that character to exert their strong popular appeal. It is no longer enough that our appliances will satisfactorily do their work economically and efficiently; they must be made to do it with the greatest convenience, the least amount of care and attention, and they must have the virtue of attractive appearance as well.

Gasmen Must Encourage Development

Primarily it is up to the gasmen themselves to encourage development along these lines, and that encouragement must take the practical form of readiness to pay for quality and value. I find this view reflected in a recent article by John H. Hartog, of the Portland (Ore.) Gas & Coke Company, who expresses his opinion in words that I think will bear repetition:

> The principal thing for a gas company to impress upon the public is that they sell only the best. Don't ever sell an appliance just to cater to a depraved taste for cheap trash. Let the other man do that if he wants to. But the gas company should be like Caesar's wife. It will take time to educate a hundred million people that the gas company cannot afford to sell inferior appliances.
>
> To us the reasons are patent, but the problem is a difficult one. Only by convincing the salespeople of this fact and by continually instilling it into the public mind can one gain that prestige. But once gained it is worth all it cost to secure.
>
> Just think a moment. If you want a silk hat, a real swell tie, a pair of full-dress shoes, a tip-top meal or a good auto, where do you go? Do you visit some second-hand shop to see how cheap you can get it? Do you patronize a place you never heard of? No, you make a bee line for the place where you know you are going to get the best. The same standard can be established for appliances and the public made to feel that if they really want a reliable article they are always safe at the gas company. It will help your sales, increase your turnover and profit and reduce your tribulations.

Public Relations and Good-will

For me to venture at any length on the ground of public relations is uncalled for, for you have been addressed upon this subject by able speakers at several of your recent meetings and I doubt if there is anything that I can add that would not be very largely repetition. Yet as a factor in our commercial development it is of the utmost importance.

Something over a year ago, in speaking before the Wisconsin association, I said that a generous appropriation for advertising should be as indispensable

an item in every gas company's budget as coal, oil and labor. I am glad to see this view coming into wider favor and finding repeated expression in various sections of the country. Advertising has been a modest little item—tucked away in an obscure place down toward the tail end of the gas industry's budget, but in spite of this he has been working hard for our business, growing in strength and doing us immense good. Based purely on results accomplished, he has earned promotion.

Broadly speaking, we are merchandisers of an indispensable service, but it should be remembered that this service has been made indispensable only after a great many years of the most painstaking effort. We are running into an era of great, and we hope unprecedented, prosperity, and we shall participate in that to the extent of the sales aggression that we bring into play.

We would do well to discard the thought that gas is a necessity. It dulls the sales sense and lulls us into a state of apathy. Only to those who know the convenience of gas service is that service a necessity. To the millions of persons in this country who use candles, oil lamps and coal stoves, gas is not a necessity. It won't be until they have been sold.

An aggressive sales policy backed up by an equally aggressive advertising program is the combination that we need. They go hand in hand. They constitute the normal way of doing business. We can't have one without the other, unless we are willing to do business on a reduced scale.

Although we are a greatly underadvertised industry, we are at this time using more newspaper advertising space than we ever did before. In the year 1920, for example, 140 gas company members of the association whose total annual gross sales of gas, exclusive of appliances, was $98,000,000, spent $843,000 for advertising. This is about 85 cents for advertising out of every hundred dollars of gross business. We should like to see our companies appropriate 1 per cent of their annual gross receipts for this purpose. If this were done the 966 gas companies in the United States would have an annual budget of $3,800,000 for advertising. Add to this the splendid national advertising done by a number of our progressive manufacturers, and you can easily visualize the big strides that we could make.

The newspaper publishers of the country know the association's stand on this matter, for it was discussed at their annual convention in New York City. Hereafter, the publishers are going to devote more attention to public utility advertising. They are going to ask us to buy the white space in their newspapers for the purpose of selling our service and appliances. Let us patronize them liberally, keeping in mind the thought that the American newspaper as a moulder of public opinion has no equal.

Find Renewed Faith and Optimism

Now with our machine beginning to take the hills on high, we find renewed faith and optimism wherever public utility men gather. We see the long and depressing period of commercial inactivity in the retrospect, and the gas business commercially is a brighter prospect than it has been at any time since those first years of the war when our development work was curtailed and sales organizations which had been carefully developed were practically dispersed. It is to be hoped that in the glow of satisfaction which comes with these better times, we will not forget that branch of the industry that stood by us loyally when our troubles were great. The manufacturer is an integral part of the gas business. He had just as hard sledding as we did. Our troubles were in part his own and he suffered because of them. With our commercial development curtailed, his sales were hard hit, yet he stood by and in more than one case that I know of he extended credits that kept the appliance business from dying an inglorious death. He deserves consideration now and it should take tangible, practical form. The rehabilitation of commercial activities will be accompanied by the redemption of the purchase of appliances for resale, and it is to be hoped that they will be bought in volume and quantity commensurate with our optimism.

I think I have said enough on the question of price, yet the temptation is upon me to repeat that it is not in the interest of our business nor is it in the interest of our customers to buy the cheapest article nor hammer down the manufacturer to the lowest possible price. There is a fair level in all things and we can't go under it without being hurt in the long run. We need better merchandise in our business, and I firmly believe that better merchandise will stimulate sales—not hinder them. Improved semi-automatic and efficient appliances will never come about with a price-cutting market; in fact, all the needed improvements point towards the necessity of more expensive construction and if we want these improvements to come about we will have to encourage the manufacturers by helping them sell better grade appliances.

In every effort made in the interest of our business, in every activity in which the aid of the manufacturers as a group was needed or asked, they have stood with us, and no man with a normal sense of fair play will deny that we should stand so with them.

There is one more factor that will ultimately exercise the strongest influence upon our commercial expansion—the universal adoption of scientifically constructed rates. How many of us have cursed the fixed, inflexible, straight line rate when up against the problem of competition with other fuels for large-volume business? It has always been almost an insurmountable restriction. While many companies have broken away from this straight line restriction, there are still many more who are struggling along under it. But at the present time I am glad to say there is a growing tendency toward the adoption of more scientific principles of rate making. Nowhere in our business are there more encouraging indications than this tendency.

The rate structure, admittedly one of the most important elements in any business, is especially so in ours and it is this element that is at last receiving the attention which its importance demands.

These are good signs, but the best sign of all is to be found on the faces of the commercial men in our industry. Subjected to discouragements that no other group of men in the business had to face (unless it be those who had to make the long struggle for justice in the matter of rates), the commercial men are bringing to their task real knowledge, backed by splendid loyalty and enthusiasm, and they will carry the gas business forward, to its proper place among the nation's essential enterprises.

A Lower Heat Unit Basis

(*Continued from page* 466.)

avail himself of this opportunity of learning more about this so vital a subject to the industry. Especially when coming from first-hand disinterested authority.

Will Help Create Better Understanding

Without a doubt it will constitute the fundamental instrument to a better understanding in this regard between the gas company and the public, opening up thereby wider fields of usefulness and shaping our future destinies with an ever-increasing amount of success.

It was a striking coincidence to find that a great many individual tests were fully corroborated by those of the bureau.

Naturally it must be expected that when going below 400 B.t.u. per cubic foot, special construction and adjustment are necessary to the burner equipment. No one would any more think of operating a 110-volt electric bulb on 220-volt current, nor would one expect to use a tall mantle fixed for 560-B.t.u. gas on a nozzle delivering 400-B.t.u. gas.

Although at the moment, it is not my knowledge if any attempts have been made here, to secure suitable incandescent burners for the lower heating value gas, I do happen to know that there are quite a number of them now on the market in England which give full efficiency on a medium-size mantle with gas as low as 380 B.t.u. The consumption per hour being 3.54 cu. ft. at twenty-tenths pressure and 3.77 cu. ft. at twenty-three-tenths pressure.

It must be quite apparent to all of us who have been following the trend of time that the enlarged scope of utility of the gas industry lies in the more efficient use of the raw materials, especially of the available coal, for the call of the future will be "heat units, and then some more heat units."

This brings us to the point of plant operation. For the present moment, I should say it is not altogether so much the question of the relative efficiency of utilizing a low against a high heating value gas as it rather is the potentiality of existing plant and its possibilities to meet the problems of future developments, with respect to the most economic production of B.t.u. per unit of plant.

With every plant operator it ought to be the solemn obligation to wrestle earnestly with the law of economics as it affects production in his own particular works and environment. It is very true that where the old-type horizontal or inclined retorts are in use, the thermal efficiency will not be so great as with modern installations designed for the effective steaming of the charges, but this need not deter any of us from trying to improve results with the plants at our disposal.

The Smaller Gas Plants

It may not be amiss at this juncture to say something about the smaller gas plants. Seemingly it is evident from past experience that the opportunities for improvement in efficiency and economy lie at the present moment more with the plant of relatively small output than with the up-to-date larger works.

To many of the smaller-plant managers it would prove decidedly amazing what better results are attainable if a capable and thorough examination be made of the existing equipment, with the idea of introducing the required changes in operation resulting ultimately in placing such properties on a basis of increased efficiency and earning power.

The prevailing methods of gas manufacture, due to existing plant, and certain prescribed standards on B.t.u. values, do not, however, permit the maximum recovery of the obtainable thermal efficiency in the coal.

A ton of gas coal contains about 30,000,000 B.t.u. from which under our present systems, we realize only about 6,000,000 to 7,500,000 B.t.u. in the gas, or an efficiency of 20 to 25 per cent.

There are reports afloat that several processes are reaching perfection in this country where the production of B.t.u. in the gas per ton of coal will be increased by 100 per cent over the old figures.

New carbonizing schemes are being invented almost daily, but for the future there is no hesitancy in stating that existing methods will be supplemented by the more efficient processes to meet the requirements in the most economical manner. All, of course, dependent on lowering the barriers, and allowing the manufacture and distribution of a lower heating value gas.

In old conservative England, by reason of the recent gas regulation act, the development of new processes has been short of startling. Never before has the industry shown so keen an interest in the better utilization of its coal resources. With existing plant, numerous gas companies have been able to obtain yields of from 24,000 to 25,000 cu. ft. of gas per ton of coal carbonized with heating values around 420 B.t.u. per cubic foot, besides leaving a goodly margin of salable coke, tar and ammonia.

Notwithstanding these remarkable achievements, some engineers are striving for still greater efficiency in this direction by the introduction of systems for the complete gasification of coal

Complete Gasification Here to Stay

There is no doubt that the process of complete gasification of coal has come to stay.

Some of the results reported with the two most favored processes in England would appear almost incredulous. Yet the fact remains that both have been introduced very extensively and are giving satisfaction. One of the late reports indicates that it is possible to obtain 54,000 cu. ft. of gas of 396 B.t.u. per cubic foot value, the total inerts not exceeding 7 per cent.

Here is where we are approaching the maximum thermal efficiency, for it means the recovery of about 70 per cent of the available B.t.u. of the coal, in the form of gas.

Considerable argument has arisen over the quality of this gas, and such gases of lower heating value, with particular reference to certain impurities such as hydrocyanic acid forming and reacting detrimentally in the storage and distribution systems. For a time this did look like a formidable difficulty, but with proper study and experiment this problem has been solved. J. G. Taplay, of the British Institution of Gas Engineers, and research chemist to the life of gas meters committee, presented a statement to the Institute meeting last year and which was later superseded by an official report, that the impurities are being handled with good success by providing a layer of calcium carbonate, or ordinary chalk, on the top grids of a scrubber. This chalk being spread over some coke particles and occasionally

washed down with a solution of water or weak ammoniacal liquor. The ammonia, hydrocyanic acid, sulphureted hydrogen and carbon dioxide, all pass through the chalk with the result that it acts as a sort of catalyst, resulting in the formation of ammonium thiocyanate, etc. The same results, no doubt, can be secured by the liquid purification process and using instead sodium carbonate solution for the absorbing medium.

Gas plants should essentially be gas-generating stations. There are a few exceptions, where the markets for coke, tar, etc , are not subjected to wide fluctuation in price, but in the major portion of instances, there is no guaranteed stability with these products, and therefore no fixed revenue can be assured. In this regard our past experiences should suffice and although some gasmen will not agree, personally I am in accord with a certain English gas engineer who recently said that "a therm in the gas is worth two in the residuals."

As it was expressed a year ago, it has been the gasman who, in late years, has been so strongly advocating the substitution of gaseous fuel for solid fuel for domestic heating and industrial operations, but always has he been confronted with the task of producing such a commodity at a low enough price to make it attractive from every standpoint.

With greater recovery of the thermal efficiency in coal there should be but little reason to doubt that we can extend the use of gas to almost limitless bounds and do so profitably.

Heating Service

One must keep in mind, however, that the manufacture of a cheaper gas is only the first step in the problem and that we must devise means of giving heating service with lower cost, for the consumer after all is interested more in the quality and cost of the service than in the price of the fuel alone.

I stress this point because necessarily industrial work, and which comprises a highly remunerative market if properly handled these considerations involve the very significant factor of proper heat application and which ultimately governs the cost and quality of the finished product.

Whether we are disposed to admit it or not, there is absolutely no justification in the almost predatory use of our present coal and oil resources. Because the supplies have been a plenty and may continue so for some years to come, does not absolve us from securing the highest efficiencies obtainable from these materials for the benefit of this generation, aside from the necessity of husbanding them for the generations to come.

Prices and quality of to-day may not be the prices and quality of to-morrow and past years should bear ample proof of the folly of waiting for another day when the gas industry shall be compelled to make the necessary alteration to meet the growing intensified competition and the broader requirements of the times

It is therefore none too soon to think of the new developments as being those which will be the backbone of the industry in the years to come.

There is no question about it that there is in the industry room for a more aggressive sales-developing campaign. Trade depression and the remnants of adverse circumstances are in some places being made the excuse for still not doing more in pushing business but, as was said before, there are no definite limits to the field that lies before us. Surely it can be gained with profit by careful and determined efforts.

It grows larger and larger with the extension of knowledge as to what can be done with gas, and every fresh development gives birth to a still greater view. Let us be impressed with the task right now that expansion must be faced boldly and without postulation.

The gas industry has taken marvelous tsrides within the past ten years, to be sure, but with a more liberal ruling on B.t.u. standards and permitting a more adequate return on the invested capital the vast opportunities awaiting our development will be manifested as an unprecedented revelation of utility unhoped for even by the most ardent optimist of to-day. If I may venture the prediction, nothing will have ever approached it since the advent of the incandescent gas mantle.

The standards of efficiency that we shall be expected to establish and maintain shall be vastly different from those which are attending us now, and as is the way of the world, the tendency is ever upward. If, therefore, we read the signs of the times correctly, it has never been more necessary to submit ourselves and our processes to self-analysis, and to discuss the all-important question of efficiency, than it is to-day.

Never, indeed, has there been a greater need for this introspection and never has there been a stronger call for a more well-directed concentration of effort within the industry to attain it. The new road that we shall have to travel is only partially explored and the forward march will be strenuous and tedious and ever more testing the nearer we approach our goal. But we dare not stand still. To do so would be an admission of failure, and a betrayal of all we have held most dear in the past.

We have thus no alternative but to march with the times and attune our methods and manners to harmonize with the demands upon our greater usefulness, for the present as well as for the outlook of the future

We then, as gas engineers and plant managers, must be prepared to meet eventualities. The gas authorities —State and municipal—must be fully cognizant of the industry's needs for the present and for the future. Do all of us concerned in this matter realize to the full the responsibility that is attached to it? We hope so, because only a wise and liberal policy supported by highly trained, well-informed, scientific as well as practical men, will succeed in the fighting days, the high-efficiency days to come.

A most decidedly important feature in the success of the gas company therefore lies primarily that in any new gas regulation act on heating value standards, it must be a substantial recognition and embodiment of the sound principle that any legislative control of an industry should impose the minimum of restriction upon the natural and healthy development within the industry itself, while seeking likewise protection for those whom it serves and supplies.

"If we continue to work under our present obsolete and unnecessary standards," recently said a prominent American authority of the profession, "it is not so much a question of how we are going to have a cheaper supply of gas, but the real question is how are we going to prevent a continual increase in the price of gas." The consumer is no longer interested in the matter of candle power. The same thing that gives luminosity to the open flame is the thing which blackens the kettle and brings many of the troubles which lower the efficiency of gas in practical use.

Wanted—A Summer Market for Gas

(*Continued from page* 463.)

Some domestic patrons may think that gas reserves should be saved for them. Employees of the company, who understand the necessity of selling gas every month in the year, have an opportunity to explain the situation to their friends. The maximum domestic demand is confined to four months in the year—December, January, February and March. It is obvious that no industry can survive and maintain service for twelve months on the revenue derived from only four months of operation unless an unusually high rate is enjoyed. Service must be maintained by gas companies for every day of the twelve months. They must be in position to supply gas and render service at any time at the wish of the patron.

Consumption of gas by industrial users during the entire twelve months, or at least during the summer months, therefore, made possible by the low rates for gas now enjoyed by domestic patrons by helping to pay the revenue required to maintain service every day in the twelve months. It is the summer consumption of gas by industries in Pittsburgh that keeps the cost of natural gas below that paid in other districts for manufactured gas of half the heating value. This subject is not understood by the average domestic consumer. Employees can be of valuable assistance in enlightening those who do not know. They can also help themselves by adding to the number of industrial patrons of their company. It is self-evident that a prosperous employer makes a prosperous employee.—*Public Service Employees' Magazine*

Mid-Continental Oil and Gas Association Denies Favoring 3% Severance Tax

At the general legislative assembly of Louisiana, now in session at Baton Rouge, much discussion has been held pro and contra a 3 per cent severance tax. Through some evident misunderstanding, the newspapers have taken the stand that the independent oil and gas producers favor such an increase over the present tax of 2 per cent. As spokesman for the Mid-Continental Oil and Gas Association, which embraces all the producing companies in Louisiana, Joseph B. Elam, of Mansfield, stated formally that the independent oil producers had not agreed to a 3 per cent severance tax, would make no such agreement nor enter into any sort of political contract.

When the present State administration entered into office, it made what was understood as a "gentlemen's agreement" with the oil and gas interests for the payment of a 2 per cent severance tax on natural resources based on value during the life of the administration in question. Mr. Elam declared that the only action which the independent oil and gas interests have taken in the matter is to release the present administration from its so-called "gentlemen's agreement" of 2 per cent. Further than that, he refused to say definitely what the attitude of the Mid-Continental Oil and Gas Association would be in the event of a severance tax disagreement or agreement in the legislature.

The existing misunderstanding of the newspapers probably originated in a resolution passed by the Mid-Continental Association on January 26 of this year, in spite of the fact that the resolution positively stated that an increase above 2 per cent was more than its just proportion of the tax burden. The resolution in question is as follows:

"Whereas, There appears to have been an effort to cause a misunderstanding about the purpose and scope of the so-called 'gentlemen's agreement' for the payment of a 2 per cent severance tax on natural resources based on value during the life of the present State administration, causing the people of Louisiana to believe that the oil and gas producing interests of the State are seeking to escape their just proportion of taxes and to control the present administration to that end, particularly the Standard Oil Company of Louisiana with which said 'gentlemen's agreement' was not made, but with the entire oil and gas producing interests of the State, represented by the Mid-Continental Oil and Gas Association, and

"Whereas, The oil and gas producing interests of this State, represented by this association, have never had any such purpose in view, and believing at the time of said agreement, and still believing, that a 2 per cent severance tax was and is more than its just proportion of taxation, and desiring to relieve the administration of any embarrassment, and therefore, in fairness to the administration and to itself, to relieve the administration from any and all obligations, expressed or implied, existing or thought to exist, under the so-called 'gentlemen's agreement,' now, therefore, be it

"Resolved, That the Mid-Continental Oil and Gas Association, representing the oil and gas producing interests of the State of Louisiana, does hereby release said administration from any and all obligations, expressed or implied, resulting from the aforesaid 'gentlemen's agreement,' and be it further

"Resolved, That a copy of this resolution be forwarded to Honorable John M. Parker, Governor, at Baton Rouge, La."

Sales Force Banqueted

The sales force of the Equitable Sales Company, Pittsburgh, Pa., recently enjoyed a dinner at the Hotel Chatham, given by representatives of the Tappan Eclipse Range Company. Various contests during the evening kept the participants in an uproar throughout. A drawing was held for a range, which was won by Mr. McDonald, of the East Liberty Gas & Electric Shop, with the understanding that the winner carry the range home that night. Mr. McDonald was somewhat relieved, as well as disappointed in a vision of a standard gas range when a small miniature was presented, to be used for demonstrating purposes. In the balloon-blowing contest, Miss Shaw of the North Shop won the medal and the title "champion hot-air slinger."

Gas-Fired Pottery Kilns

In gas-fired pottery kilns there is provided a small chamber whose walls are adjacent to the walls of the kiln chamber, and which is commonly known as the gas bag. The hot combustion gases pass from this chamber through numerous portholes into the kiln chamber. This proximity of the gas bag to the kiln chamber gives rise to considerable damage to the walls of the same. In British Patent No. 176,419 there is described an arrangement whereby this disadvantage is removed. This is done by placing the gas bag on the middle line of the kiln chamber. The gas ports are arranged on each of its longitudinal side faces. This arrangement necessitates a modification in the flues.

Public Utilities Securities Market Report

Prices of Representative Gas Bonds

(Quotations furnished by The National City Company)

Company	Issue	Maturity	May 18, 1922 Bid	Asked
American Lt. & Trac. Co.	Five Year 6s	May 1, 1925	106	106½
Brooklyn Union Gas Co.	First Consol. 5s	May 1, 1945	93¼	95
Columbia Gas & Elec. Co.	First 5s	May 1, 1927	95	96
Consol. Gas, Elec. Lt. & Pr. Co. of Baltimore	First Ref. 7½s	Dec. 1, 1945	108½	109½
Consol. Gas, Elec. Lt. & Pr. Co.	General 4½s	Feb. 14, 1935	89	90½
Consol. Gas Co. of New York	Sec. Conv. 7s	Feb. 1, 1925	117½	118
New Amsterdam Gas Co.	First Consol. 5s	Jan. 1, 1948	80	81
Denver Gas & Elec. Co.	Gen. (now 1st) 5s	May 1, 1949	91	93
Detroit City Gas Co.	Gold 5s	Jan. 1, 1923	99¼	99¾
Equitable Illum. Gas Lt. Co. of Philadelphia	First 5s	Jan. 1, 1928	98¾	99¾
Hudson County Gas Co.	First 5s	Nov. 1, 1949	90	91
Laclede Gas Light Co.	Ref. & Ext. 5s	Apr. 1, 1934	91¾	92½
Louisville Gas & Elec. Co.	First & Ref. 7s	June 1, 1923	100	101
Michigan Light Co.	First & Ref. 5s	Mar. 1, 1946	90	92
Milwaukee Gas Light Co.	First 4s	May 1, 1927	90½	92¼
Pacific Gas & Elec. Co.	Gen & Ref. 5s	Jan. 1, 1942	91¾	92½
Pacific Gas & Elec. Co.	First & Ref. 7s	Dec. 1, 1940	106	107½
Cal. Gas & Elec. Corp.	Unif. & Ref. 5s	Nov. 1, 1937	94¾	95½
Peoples' Gas Lt. & Coke Co.	Refunding 5s	Sept. 1, 1947	91	91¾
Chicago Gas Lt. & Coke Co.	First 5s	July 1, 1937	95	96
Portland Gas & Coke Co.	First & Ref. 5s	Jan. 1, 1940	89	91
Seattle Lighting Co.	Refunding 5s	Oct. 1, 1949	86	88
Southern California Gas Co.	First 6s	Nov. 1, 1960	94	95
Utica Gas & Electric Co.	Ref. & Ext. 5s	July 1, 1957	87	89
Washington Gas Light Co.	General 5s	Nov. 1, 1960	94	95
Western States Gas & Elec. Co. of California	First & Ref. 5s	June 1, 1941	88	89

Tax Arbitrators Named

Atlanta, Ga.—The Mutual Light & Water Company, of Brunswick, has appealed from the tax assessment levied against it by Comptroller General W. A. Wright, and on May 1 arbitrators were named by each side. The company returned its gas and water plant at a valuation of $114,465 and the electric light and power plant at $48,950 for 1922. This was declined and General Wright levied an assessment of $318,225.68 against the gas and water plant and $267,931.12 against the electric plant.

The company has appointed C. B. Conyers, of Brunswick, as its arbitrator and General Wright has named Hon. J. A. Perry, of the Railroad Commission, to represent the State.

Dividends Declared

On April 26 the board of directors of the Colorado Fuel & Iron Company declared the regular quarterly dividend of 2 per cent on preferred stock payable May 25 to stock of record May 10.

Pure Oil Company April 26 declared a regular quarterly dividend of 50 cents a share payable June 1 to stock of record May 10.

The Merritt Oil Company paid two quarterly dividends aggregating $386,257 during 1921 but discontinued dividends in August because of the low price of crude and a desire to maintain a cash reserve. The net earnings were $999,456, but there was set aside for depreciation and depletion $1,206,325 resulting in a deficit of $260,869.

Asks Permission to Issue $3,000,000 Bonds

Turners Falls, Mass.—Notice of a hearing to be given in the former part of May by the State Department of Public Utilities on the petition of the Turners Falls Light & Power Company for the privilege of issuing $3,000,000 additional bonds has been received by Mayor L. F. Leonard. The additional money is needed to provide for additions and enlargements of the power plant.

Empire Bonds Offered

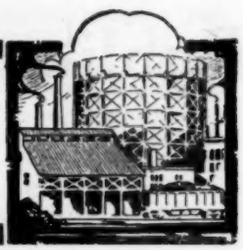
San Francisco, Cal.—A syndicate composed of Goldman, Sachs & Co., Hallgarten & Co., Halsey, Stuart & Co., and Lehman Bros., is offering an issue of $40,000,000 Empire Gas & Fuel Company first and refunding convertible fifteen-year 7½ per cent gold bond series "A." The bonds are due May 1, 1937. The price is 98½ and interest, yielding 7.65 per cent to maturity.

Colorado Incorporations

The Compass Oil of Colorado, Inc., $400,000; home office, Denver. Incorporators, Charles A. Prentice, Edward Means and Pearl Platt. In the daily papers the Compass Oil Company is advising the public that all suits pertaining to them have been satisfactorily settled and they promise to enrich all who have bought their stock.

The Massachusetts Gas Companies has announced the semi-annual dividend of 2 per cent upon the preferred shares, payable June 1 to stockholders of record on May 15.

NEWS OF THE GAS INDUSTRY



Southern Gas Association Once Again Holds Successful and Enthusiastic Meeting

Committee on Calorific Standards Made Permanent—Public Invited to Session Conducted by State Commissioners

Greensboro, N. C.—Real Southern hospitality reigned at the fourteenth annual meeting of the Southern Gas Association, held here, May 16, 17 and 18 and the widely varied program that had been arranged created great enthusiasm among the several hundred members and guests who took part.

In addition to the program of splendid papers which had been arranged there was a wide variety of amusements provided and golf and motoring devotees found that they had been well provided for.

From the time President I. Irving Pollitt called the first session to order on May 15, the entire convention moved smoothly along.

In his opening remarks Mr. Pollitt called attention to the fact that there are no members from the District of Columbia and he suggested that this omission be corrected as soon as possible.

Mr. Pollitt called attention, also, to the work that had been done during the year to keep the members in close touch with the developments that arose in the affairs of the association. He pointed out that a series of letters had been sent to the members during the months that had elapsed since the last convention and added that this part of the work had been extremely well received.

The president also pointed to the extremely gratifying financial condition of the association, which showed a cash balance of over $500 and a large amount due the organization.

J. D. Taylor, the ever-popular, also was heard from and in his usual witty manner he emphasized the need of 100 per cent attendance at each of the sessions. In passing it might be said that only four papers were scheduled for presentation, the committee in charge feeling that the subjects chosen were of such a nature that considerable time should be allowed for discussion. This proved extremely popular with the members.

The convention opened with an invocation by the Reverend R. Muray Williams. A representative of Mayor Claude Kiser welcomed the delegates to the city of Greensboro and expressed the pleasure of the citizens of this thriving Southern metropolis on being the scene of the convention.

A. L. Brooks, counsel for the North Carolina Power Company, responded to this welcome for the association, as did Mr. Skelding, of Charlotte.

The president read a telegram from Colonel Oscar H. Fogg, secretary-manager of the American Gas Association, who unfortunately was unable to attend the convention. The A. G. A. was represented by A. I. Phillips.

The committee on calorific standards which was appointed last year with full powers was made permanent, with the exception of the chairman, by unanimous vote. This committee was given full powers, well appointed, and the reading of the report, which recommended that B.t.u. standards of 425 to 525 be worked for so that gas companies will be enabled to meet ever-changing operating conditions. It was announced that Colonel Fogg had been conferred with on this all-important matter and that he had given his complete approval.

It was with the idea of continuing the discussion of this matter that the association had arranged that the first paper of the convention should be on this subject. Accordingly E. L. Reiha, of Baltimore, presented a paper entitled "The Gas Industry on a Lower Heat-Unit Basis." This paper created considerable discussion. It will be found in another section of this issue of the AMERICAN GAS JOURNAL.

The entire second session of the meeting was given over to public utility commissioners, who discussed gas companies in their relations with regulatory bodies. To this session the public was invited and the theater where the meeting was held was crowded.

H. M. Atkinson, of Atlanta, Ga., presented a paper on Wednesday on "Financial Aspects of the Gas Business." Mr. Atkinson is recognized as one of the foremost financiers of the South and his remarks were given close attention.

The program in full was as follows:

TUESDAY, MAY 16

Opening Session, 10 *A. M. to* 1 *P. M.*

Preliminaries, 10 to 10.30 A. M.
Invocation — Reverend R. Muray Williams.
Address of Welcome to City—Mayor Claude Kiser.
Response—Honorable A. L. Brooks.
Response—Mr. Skelding, of Charlotte.
Committee Reports:
Executive Committee Report.
Secretary-Treasurer's Report.
President's Address—10.30 A. M. —L. Irving Pollitt.
Paper—"The Gas Industry on a Lower Heat-Unit Basis" — Edward L. Rieha, of Baltimore.
Discussion of Mr. Rieha's Paper.
Open Discussion.
Recess—1 P. M.

Second Session, 7.30 *P. M.*
(*Theater*)

Symposium Conducted by State Commissioners:
- Georgia Commissioner—The Utilities' Viewpoint.
- North Carolina Commissioner—War's Effects Upon Franchise Rates.
- Maryland Commissioner—The Factors Entering into the Determination of Rates.
- South Carolina Commissioner—The Commission's Viewpoint.
- Virginia Commissioner—The Public's Viewpoint.
- West Virginia Commissioner—Some Observations on and Incidents of Rate Hearings.

9 *to* 10.15 *P. M.*

An Entertainment by the Noted Humorist, Strickland Gillilan, of Baltimore, Md.

2.30 *to* 6 *P. M.*

Golf Tournament.
Automobile drive through the city and to the North Carolina College for Women. Trip through the White Oak Cotton Mills, largest denim mills in the world.

WEDNESDAY, MAY 17

Third Session, 10 *A. M. to* 1 *P. M.*

Paper—"Financial Aspect of the Gas Business"—H. M. Atkinson, of Atlanta, Ga.
Discussion of Mr. Atkinson's Paper.
Open Discussion.
Paper—"The New-Business Department"—C. S. Morse, of Portsmouth, Va.
Discussion of Mr. Morse's Paper.
Open Discussion.
Recess.

2.15 *to* 6.30 *P. M.*

Golf Tournament.
Ball Game.
Automobile drive over National Highway to High Point, including trip through Furniture Exhibit Building and silk mill.

7.15 *P. M.*

Annual Banquet—Philip H. Gadsden and others.

THURSDAY, MAY 18

Fourth Session, 10 *A. M. to* 1 *P. M.*

Paper—"Through Sixes for Medium-Size Gas Works"—Vernon Baker, of St. Louis.
Discussion of Mr. Baker's Paper.
Open Discussion.
Committee Reports.
Election of Officers.
Adjournment.

2.30 *to* 10 *P. M.*

Old-fashioned barbecue and Brunswick stew. Band and orchestra, dancing and golf, at the North Carolina Public Service Liberty Club, Guilford County, as guests of the North Carolina Public Service Company.

Gas Lighting Society Mourns Loss of Wm. McDonald

At a meeting on May 11 the Society of Gas Lighting drew up the following resolution in memory of their member and friend, William McDonald:

One of our number, William McDonald, of Albany, N. Y., died on April 20, 1922, and to record something of him as a member of the Society of Gas Lighting, and as a friend, this minute has been prepared.

Mr. McDonald joined the society on March 8, 1906, and during the sixteen years of his membership he has probably attended more meetings than any other member living so far from New York. He was very much liked and respected by all, and to many of us it was a source of great pleasure to meet his hearty, warm grasp of the hand and his attractive personality.

In technical matters his statements were accepted without question, and in matters of general business he was progressive, safe and sane.

Born in Albany, N. Y., in Jan., 1843, he had passed his seventy-ninth birthday at the time of his death. His life work was the manufacture of gas meters of all kinds. He entered the business with his father in 1859 at the age of sixteen, in the factory of D. McDonald & Co. At that time the firm had abandoned the manufacture of "wet" meters for consumers, and were making only dry meters of the "Glover" type. The business was not particularly successful, and in 1872, when the factory was destroyed by fire, the partners were inclined to abandon the business, but owing to the arguments and persistence of our friend it was continued. From that time William McDonald was practically the head of the business.

Those of us who were in the gas business in the seventies and eighties will remember how active Will McDonald (as he was then known) was. Trips all over the country, and to most of the conventions, made him a familiar figure, and with his agreeable personality and strong character he was a welcome visitor everywhere. During his life he was connected with several gas companies as an officer, and with many as a stockholder. He built the gas works at Bath, N. Y., and for a number of years acted as manager. Perhaps the greatest honor that ever came to him in the gas business was his election as president of the Western Gas Association, a large, strong organization located largely in the Middle West, and it was a great compliment that such an association should go outside the regular line for its president. Incidentally, during his term of office he was sent as a delegate from that Association to the International Gas Congress held in Paris.

In his home city he stood high, very high. The following from an editorial by one of the prominent men of the State in connection with his death, tells the story:

"Death has come to William McDonald in the fullness of years and after a life of splendid achievement. He was one of Albany's leading citizens—foremost in its industrial activities, prominent in the promotion of various projects for the public welfare; an enthusiastic supporter and an active force in organizations such as the Young Men's Christian Association and the Young Women's Christian Association; a devoted churchman; a public-spirited citizen in the highest acceptance of that term. He was born in Albany, he resided in Albany all of his life; he was identified with a multiplicity of enterprises for the benefit of Albany; and he leaves behind him an honored name and a precious memory.

"To know William McDonald was to like him. His pleasing personality made a strong appeal to everyone who met him. He was an affable and gracious man with deep sympathy and great kindliness of heart. He never failed to embrace an opportunity to do something worth while—something that would be of benefit to others. The journey which he made through life was studded with innumerable acts of this nature.

"Mr. McDonald lived the life that counts; the life of service; the life that won for him the admiration of everyone who knew him; the life of sterling manhood."

Could more be said of any one?

By reason of his long connection with the business—sixty-three years—and by reason of his character and standing among the gas companies and his competitors, he was unquestionably the dean of the gas meter manufacturers of the country.

To the members of this society the loss is a personal one—and it is a very great loss. He was a friend of every one of us. We have enjoyed that friendship for many years, and are glad and thankful that we have had it. The world with which he came into contact is better because of him and what he did.

To his family we extend our heartfelt sympathy, with the hope that their great sorrow may be softened by the thought of what he has been to them through many years, and by the fact that his life almost to the end has been practically free from sickness and suffering. A good life well lived is a splendid inheritance.

CHARLES H. NETTLETON,
W. CULLEN MORRIS,
THADDEUS R. BEAL,
Committee.

Natural Gas Decision

Niagara Falls, Ont.—The Provincial Parliament has decided that the only change to be made during the session relative to the natural gas question will be that instead of a gas referee, a tribunal of five will be appointed to deal with rates, etc. One each will be selected from the consumers, the farmers on whose property the wells are located, producing companies and distributing companies. The fourth will select the fifth.

Rates Will Be Discussed at Informal Conference

Athol, Mass.—The request of the Athol Gas & Electric Company, to the board of selectmen that its petition to the State Department of Public Utilities, asking for a public hearing regarding the rates charged for lighting by the company, be withdrawn, has, according to the selectmen, been temporarily withdrawn so that the matters may be discussed informally between representatives of the lighting company and the public. The date for the informal conference has not yet been set but it is believed that the discussion will be taken up during the month of May. It is believed this will allow each side to present its case openly and freely. At the same time should the petitioners and the company come to a mutual understanding, the expenses of the public hearing at the State House in Boston would be eliminated.

To Drill for Gas

Tonawanda, N. Y.—The Republic Light, Heat & Power Company has arranged to drill wells along the Guideboard Road just outside of Tonawanda for natural gas. The rigging for the drilling of the first well is being built. The contracting company which will do the drilling had its apparatus up and nearly completed recently, when the gale, which swept over the Tonawandas struck the machine and carried it into the field, wrecking it.

Universal Sale Approved

San Francisco, Cal.—Sale of the Universal Electric & Gas Company of San Francisco to the Great Western Power Company for $2,250,000 as of March 1, has been formally approved by the Railroad Commission.

The former company, controlled by Rudolph Spreckels, supplies electric energy, steam and hot water to approximately 4,250 consumers in the city.

Under the terms of the contract for the merger the Great Western Power Company will make an initial payment of $500,000 and the balance within ninety days.

Although it did not develop at the Railroad Commission proceedings, it is understood that by stipulation between the companies involved in the transaction, the Pacific Gas & Electric Company will acquire one-half of the Universal company's holdings.

The agreement for the sale was signed on behalf of the Great Western Power Company by Mortimer Fleischhacker, president, and Chaffee E. Hall, assistant secretary, and for the Universal company by R. J. Spreckels, vice-president, and R. C. Bokee, assistant secretary.

Seek Veto of Bill for Gas Conservation

Frankfort, Ky.—Oil and gas men from all parts of Kentucky and from West Virginia and Ohio recently came to Frankfort to ask Governor Edwin P. Morrow to veto the Whiteaker gas conservation bill.

The Whiteaker bill forbids owners of gas wells selling gas for any purpose where all of the heat units are not used, if the well is within ten miles of a pipe line or of an incorporated town or city. It is said to have been aimed at carbon black manufacturers.

The men who came here numbered about 150, including the following:

W. L. Watson, Ashland; Green Garrett, Winchester; H. C. Faulkner, Hazard; E. H. Fuller, John U. Field, Roy Cole, E. M. Hummell, J. A. Fee, Harry Wood, John Gourley, W. M. Johnston, J. A. Patton, G. A. O'Neal, Fred Baker, H. G. Davies, Willard Spencer, E. A. Stephenson, A. R. Marshall, D. E. Loomis, Elmer Hupp, N. P. Howard, D. B. Duff, John Jewell, A. J. Reeves, R. H. Reese, C. M. Purdy, C. F. Lowther, Dean Eggert, Peter J. Hoenig, W. H. Young, L. C. Young, Samuel Metzger, Lewis Metzger, Julian Elliott, P. G. Powell, T. M. Fincher, Al Garber, Thomas White, Rex Carpenter, G. W. Francis, K. N. Savage, F. P. Mitchell and C. A. Gartland, all of Lexington; T. J. Evans, Salt Lick; Dr. Elmer Northcutt, Lexington; Samuel Wheeler, Cannell City; John Gardner, Winchester; L. S. Robbins, Carlisle; Dr. S. R. Collier, West Liberty; J. S. Turner, Paintsville; W. E. Duff, Cleveland, Ohio; C. J. Wilkinson and A. B. Koontz, Charleston, W. Va., and J. D. McNutt, Columbus, Ohio.

Emmet C. O'Rear of Frankfort, A. B Koontz of Charleston, W. Va., and Newton P. Howard of Lexington were on the program as speakers against the gas bill.

Mountain of Gas

The people of Chicago use approximately 80,000,000 cu. ft. of gas per day. If a single gas holder of sufficient size to hold this enormous amount could be built it would be higher than the Washington Monument and about nine times the bulk of the big office building of the Peoples Gas Light & Coke Company on Michigan Ave.